

SUPPORTING INFORMATION

Use of illicit drugs, alcohol and tobacco in Spain and Portugal during the COVID-19 crisis in 2020 as measured by wastewater-based epidemiology

Andrea Estévez-Danta¹, Lubertus Bijlsma², Ricardo Capela^{3,4}, Rafael Cela¹, Alberto Celma², Félix Hernández², Unax Lertxundi⁵, João Matias⁶, Rosa Montes¹, Gorka Orive^{7,8,9,10,11}, Ailette Prieto^{12,13}, Miguel M. Santos^{3,4}, Rosario Rodil^{1*}, José Benito Quintana^{1*}

¹ Department of Analytical Chemistry, Nutrition and Food Sciences, Institute of Research on Chemical and Biological Analysis (IAQBUS), Universidade de Santiago de Compostela, Constantino Candeira S/N, 15782 Santiago de Compostela, Spain

² Environmental and Public Health Analytical Chemistry, Research Institute for Pesticides and Water, University Jaume I, Avda Sos Baynat s/n, 12071, Castellón, Spain

³ CIMAR/CIIMAR, Interdisciplinary Centre of Marine and Environmental Research, Group of Endocrine Disrupter and Emerging Contaminants, University of Porto, Avenida General Norton de Matos s/n, 4450-208, Matosinhos, Portugal

⁴ FCUP-Department of Biology, Faculty of Sciences, University of Porto, Rua Do Campo Alegre, 4169-007, Porto, Portugal

⁵ Bioaraba Health Research Institute, Osakidetza Basque Health Service, Araba Mental Health Network, Araba Psychiatric Hospital, Pharmacy Service, c/Alava 43, 01006 Vitoria-Gasteiz, Alava, Spain

⁶ European Monitoring Centre for Drugs and Drug Addiction, 1249-289 Lisbon, Portugal

⁷ NanoBioCel Group, Laboratory of Pharmaceutics, School of Pharmacy, University of the Basque Country UPV/EHU, Paseo de la Universidad 7, Vitoria-Gasteiz 01006, Spain

⁸ Biomedical Research Networking Centre in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Vitoria-Gasteiz, Spain

⁹ University Institute for Regenerative Medicine and Oral Implantology - UIRMI (UPV/EHU-Fundación Eduardo Anitua), Vitoria-Gasteiz, Spain

¹⁰ Singapore Eye Research Institute, The Academia, 20 College Road, Discovery Tower, Singapore

¹¹ Bioaraba, NanoBioCel Research Group, Vitoria-Gasteiz, Spain

¹² Department of Analytical Chemistry, Faculty of Science and Technology, University of the Basque Country (UPV/EHU), Leioa, Basque Country, Spain

¹³ Research Centre for Experimental Marine Biology and Biotechnology (PIE), University of the Basque Country (UPV/EHU), Plentzia, Basque Country, Spain

* Corresponding authors: Rosario Rodil (rosario.rodil@usc.es) and José Benito Quintana (jb.quintana@usc.es)

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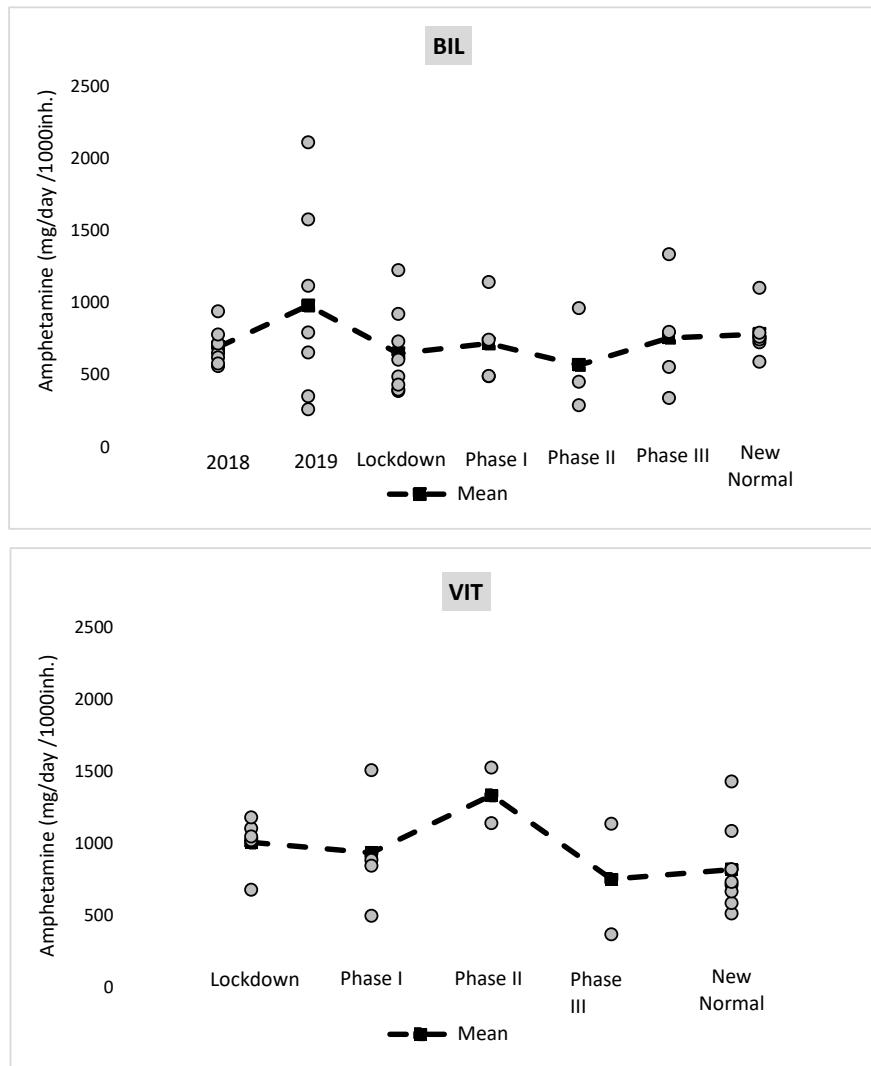


Figure S1. Amphetamine consumption in Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT). The dashed line represents the mean of each different period.

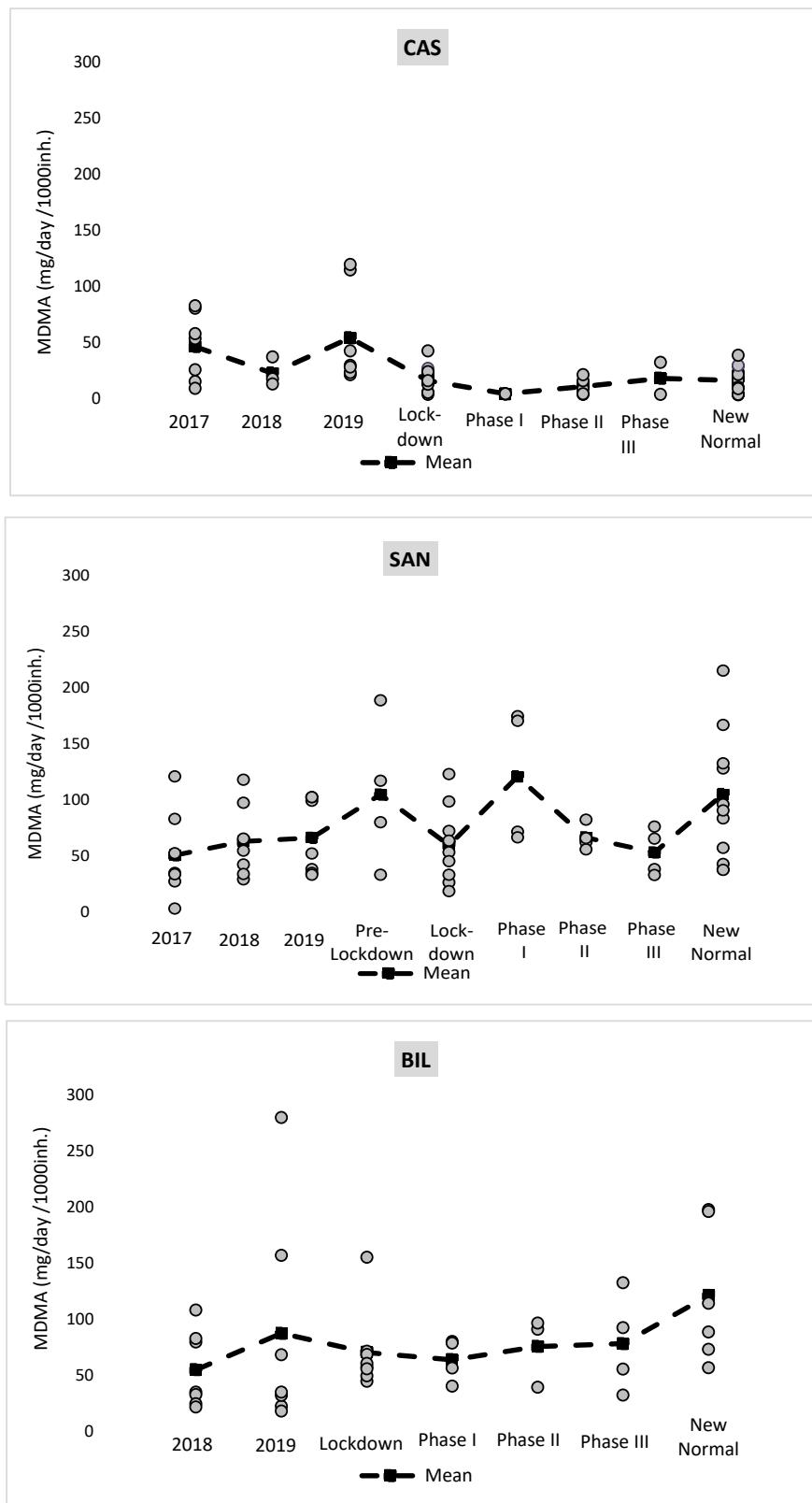


Figure S2. MDMA consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

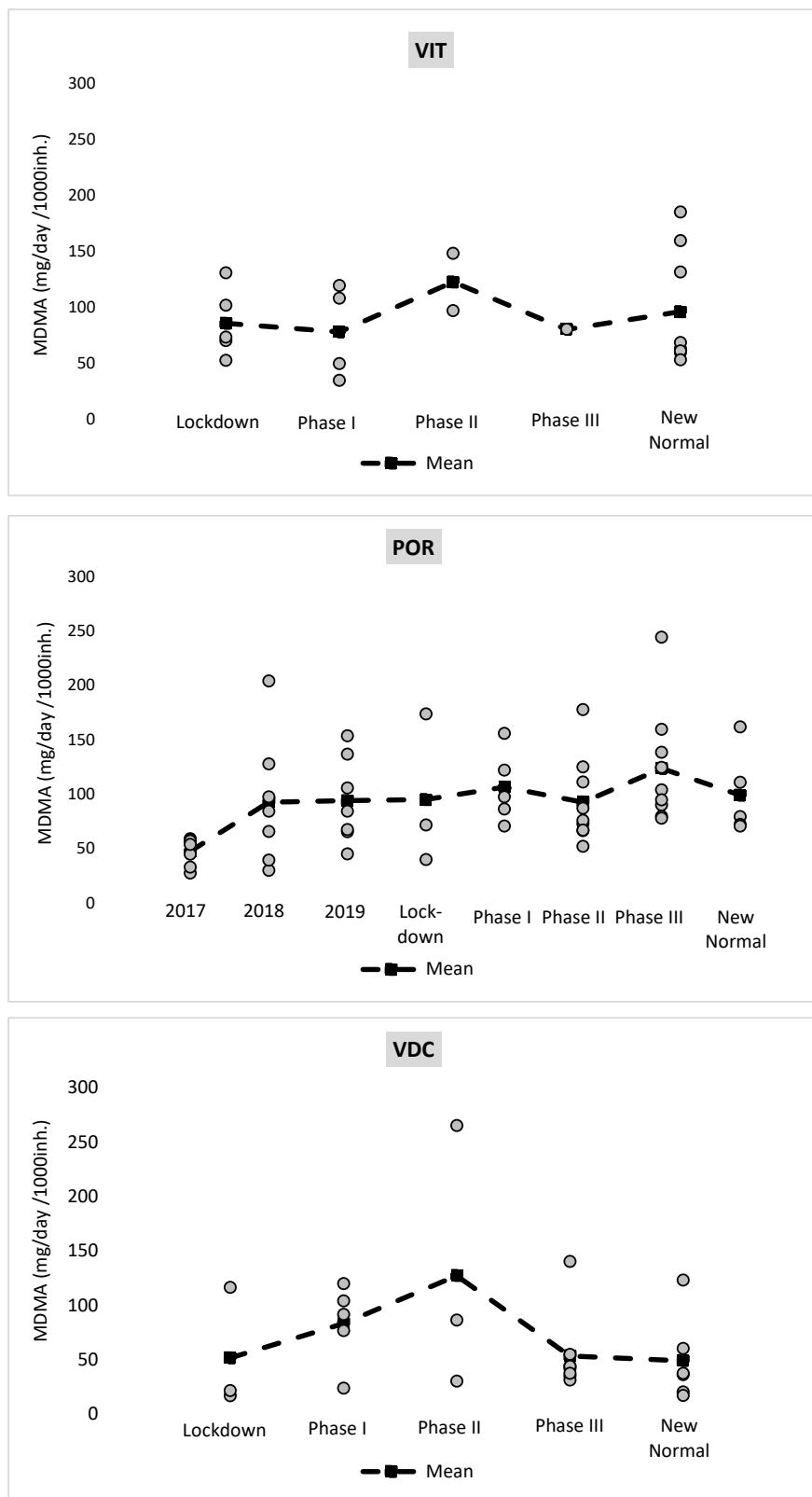


Figure S2 (Cont.) MDMA consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

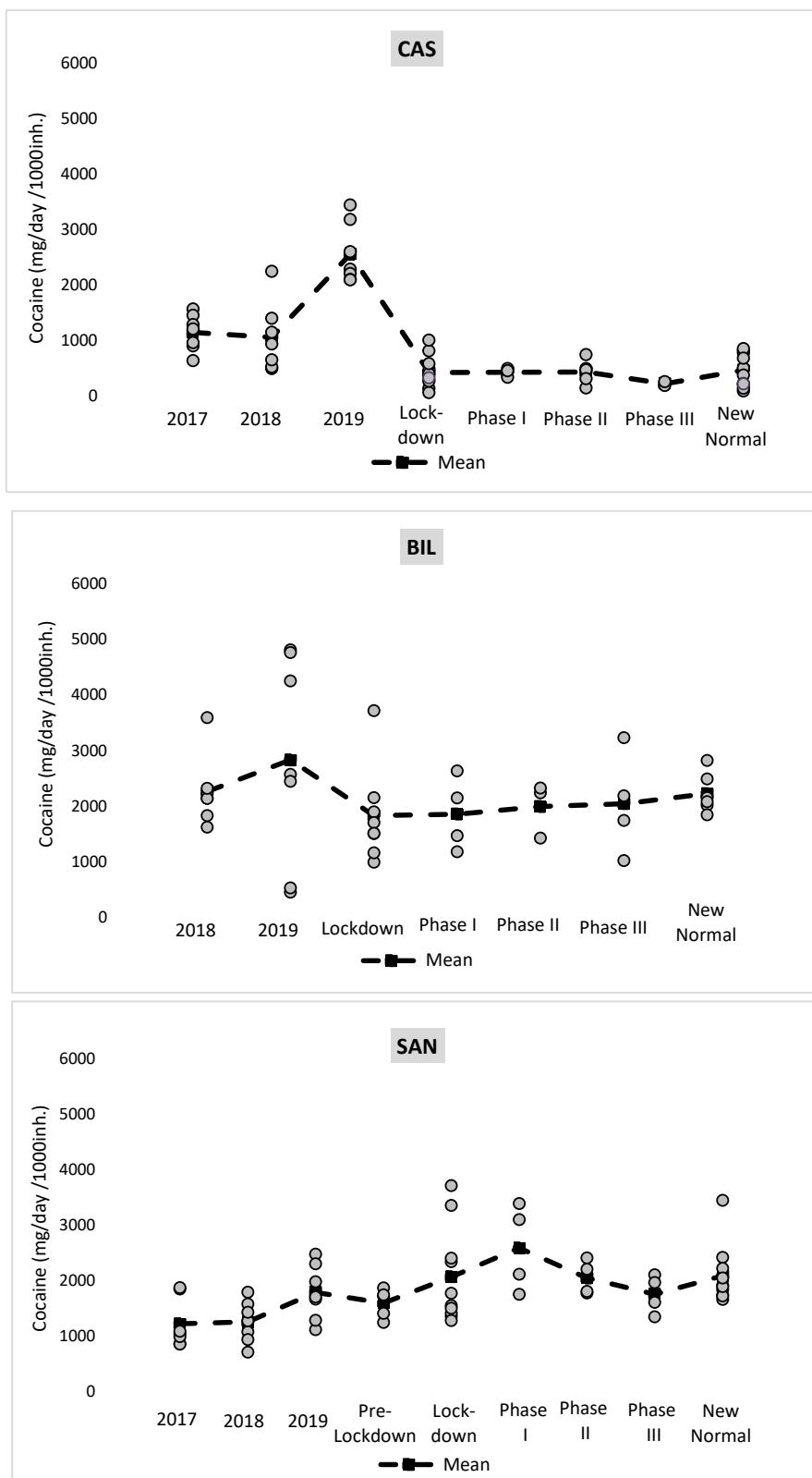


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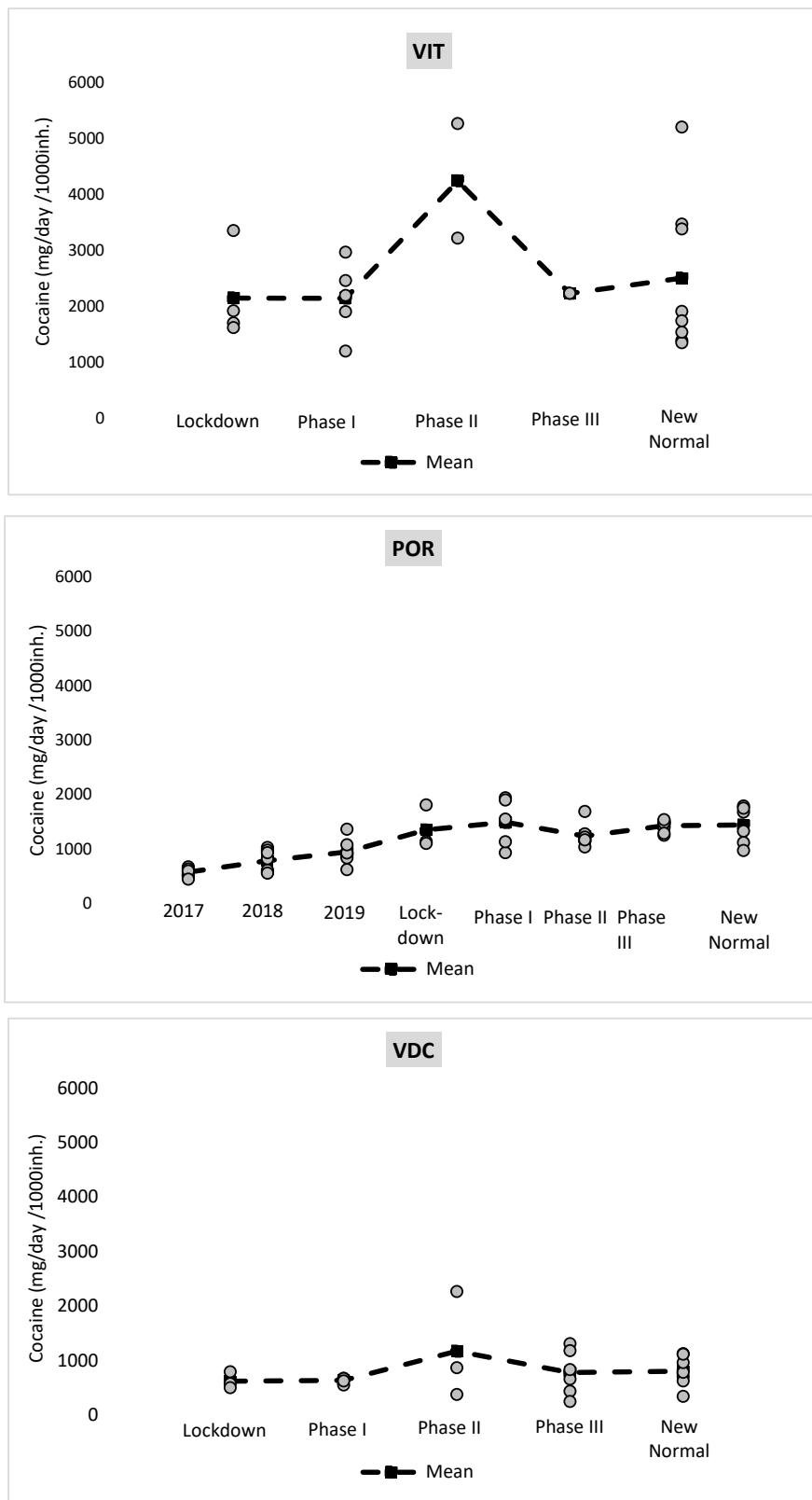


Figure S3 (Cont.) Cocaine consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

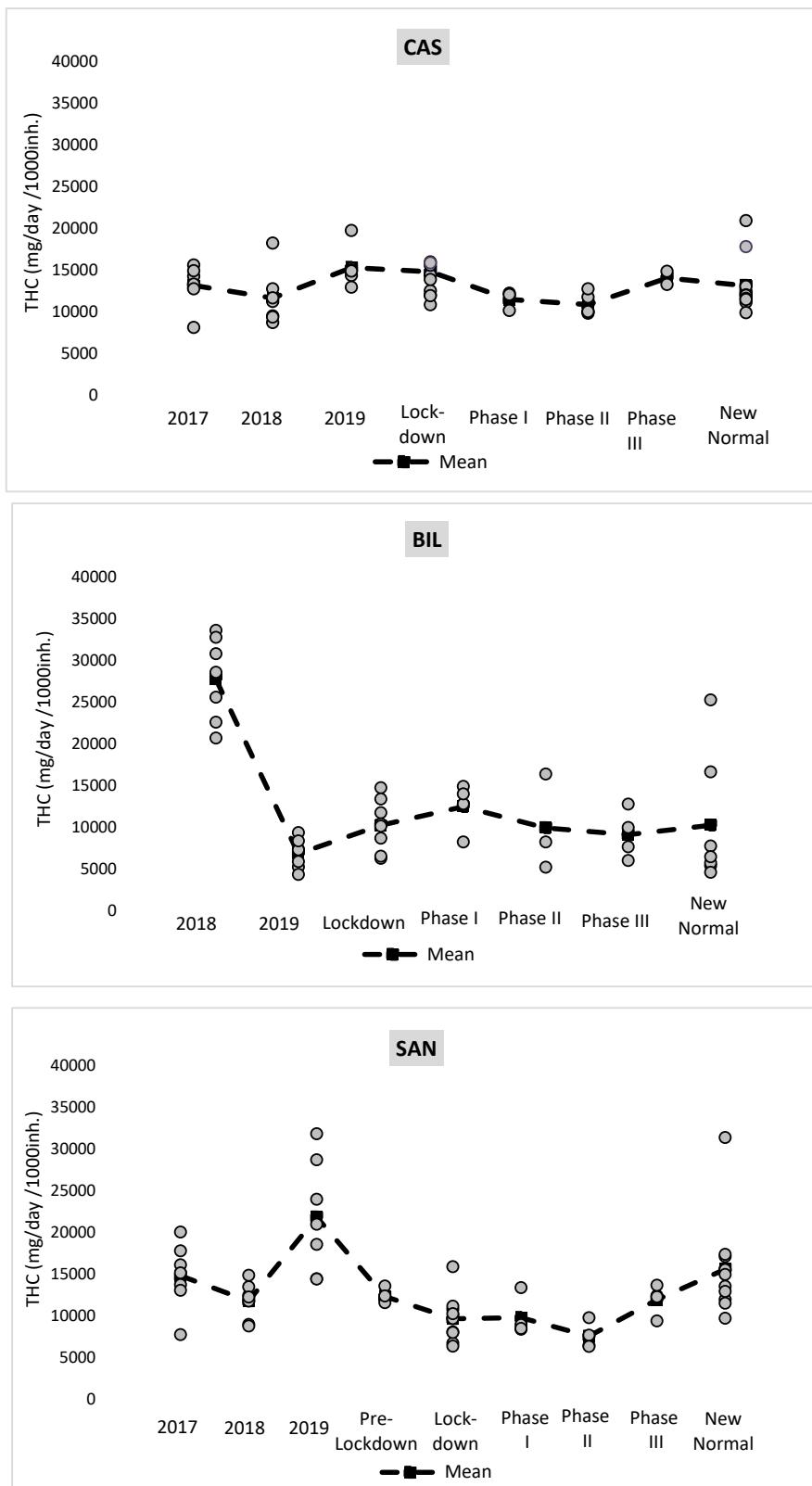


Figure S4. THC consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

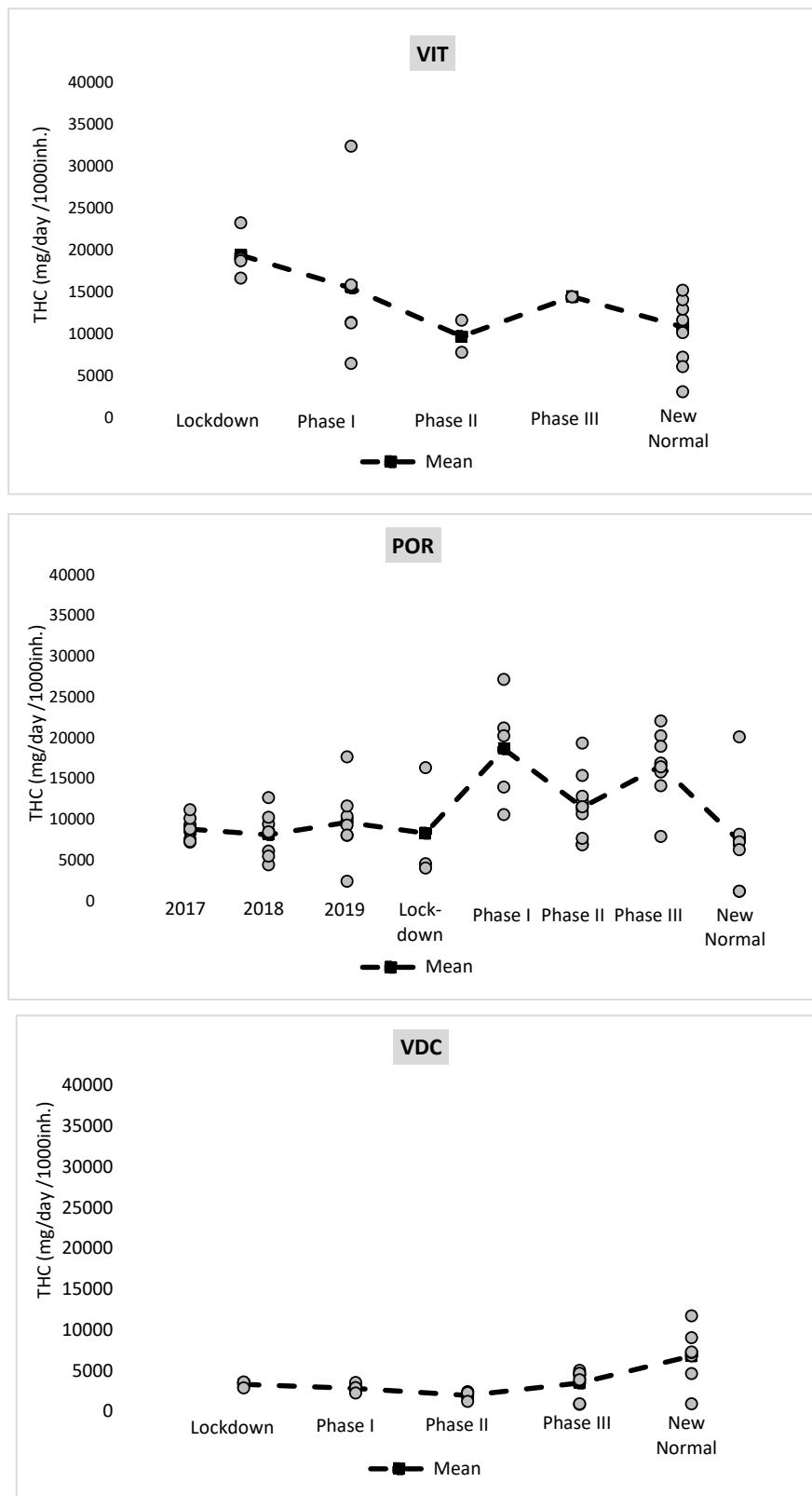


Figure S4 (Cont.) THC consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

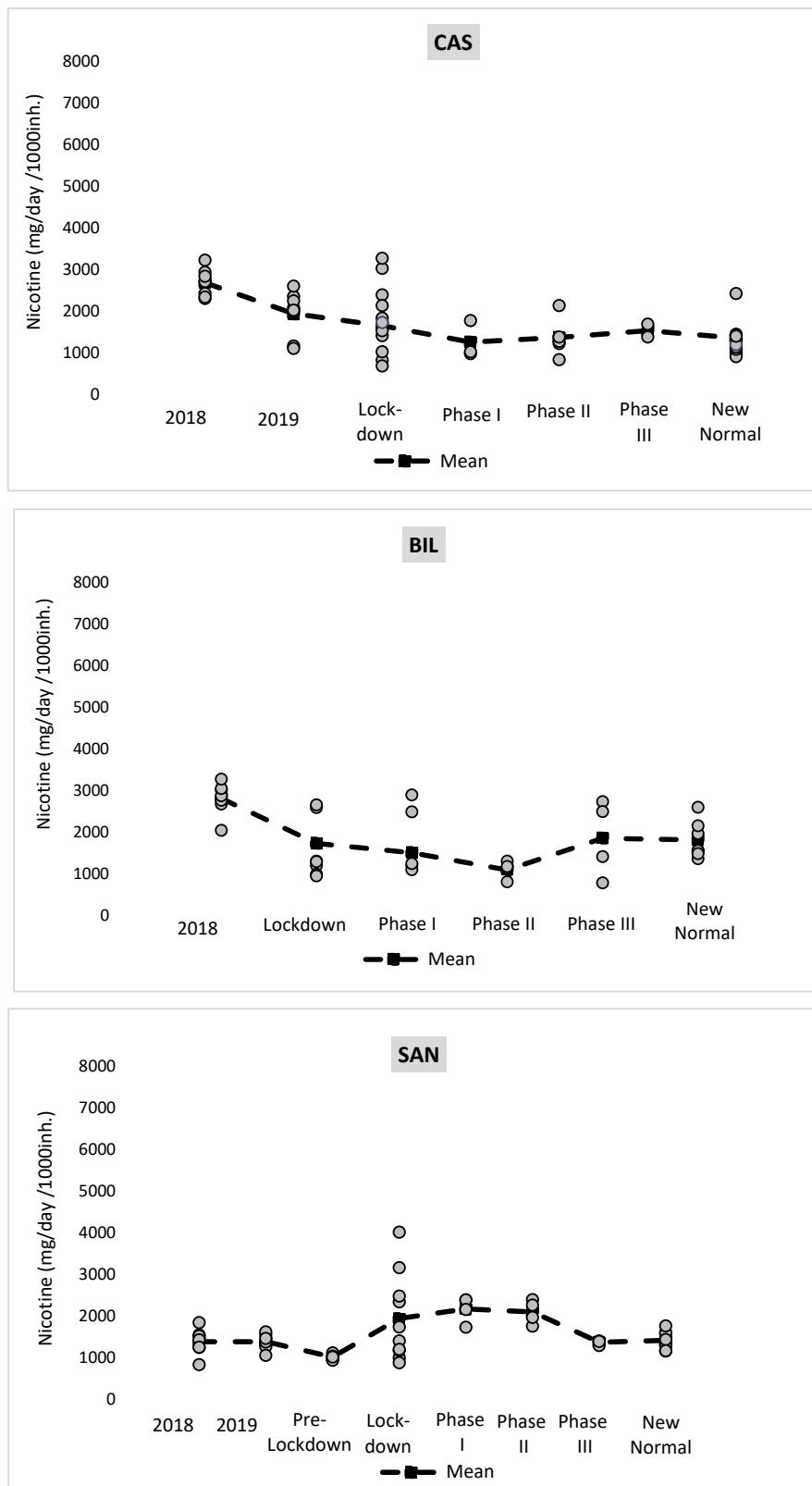


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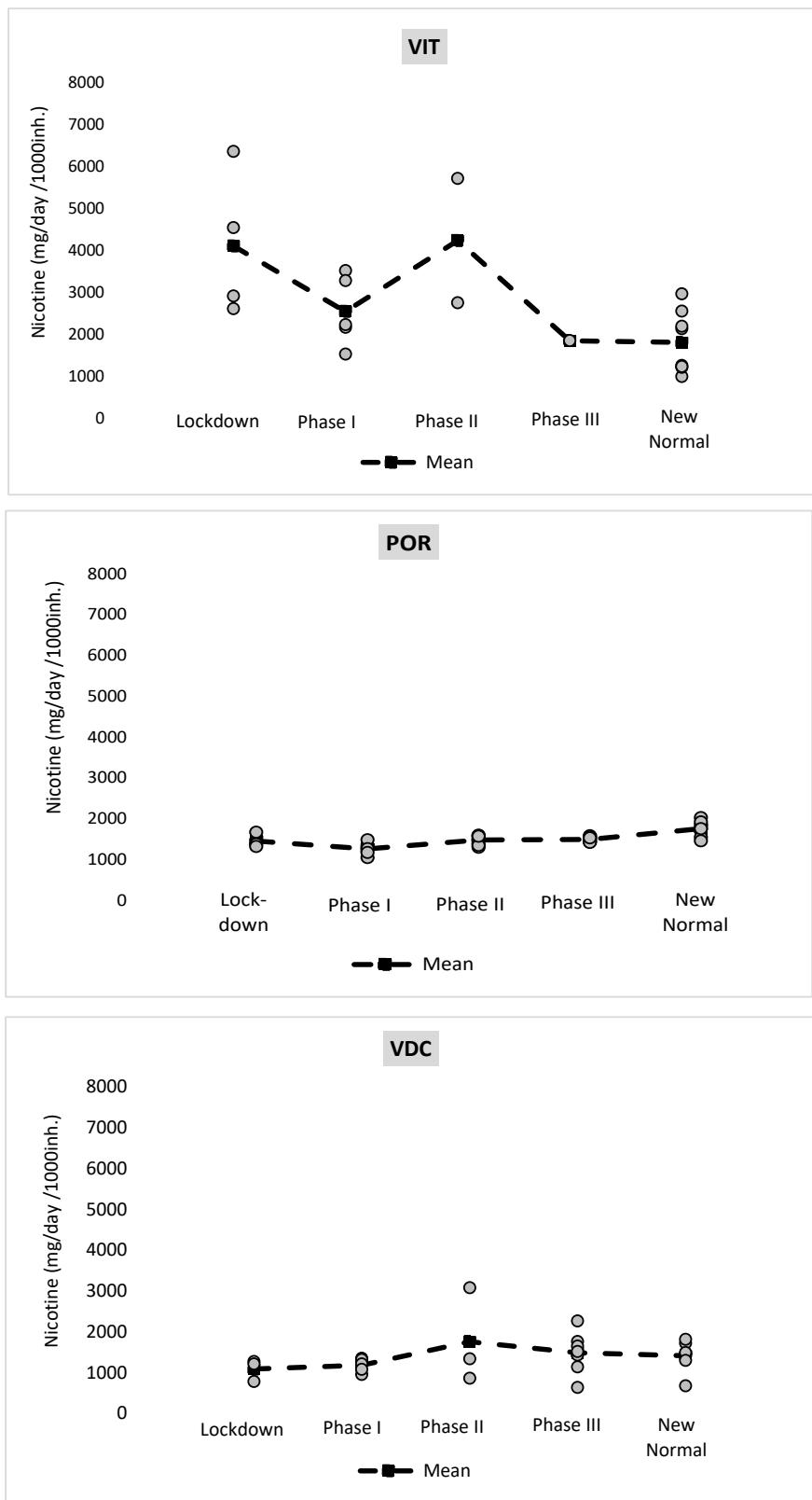


Figure S5 (Cont.) Nicotine consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

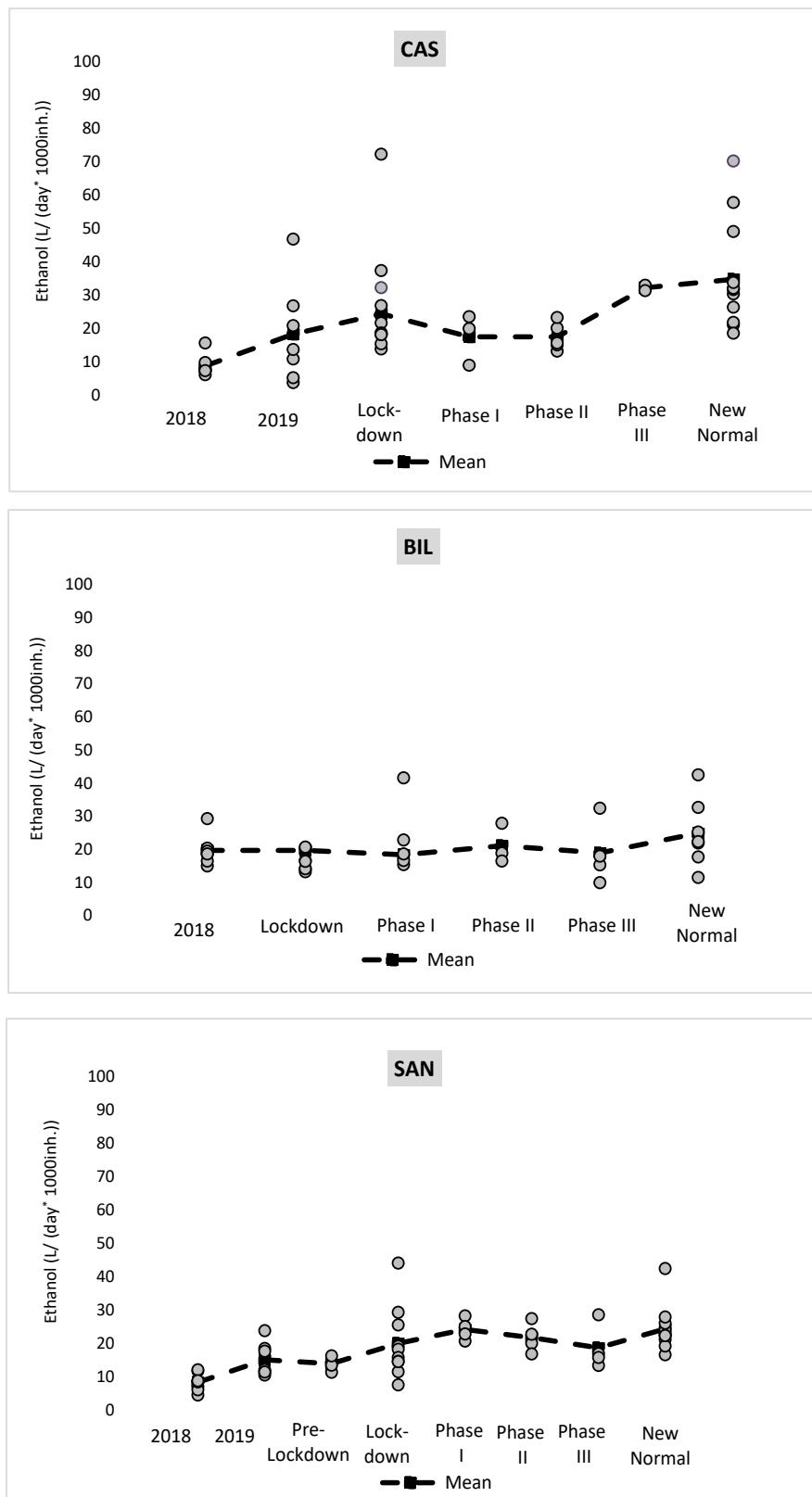


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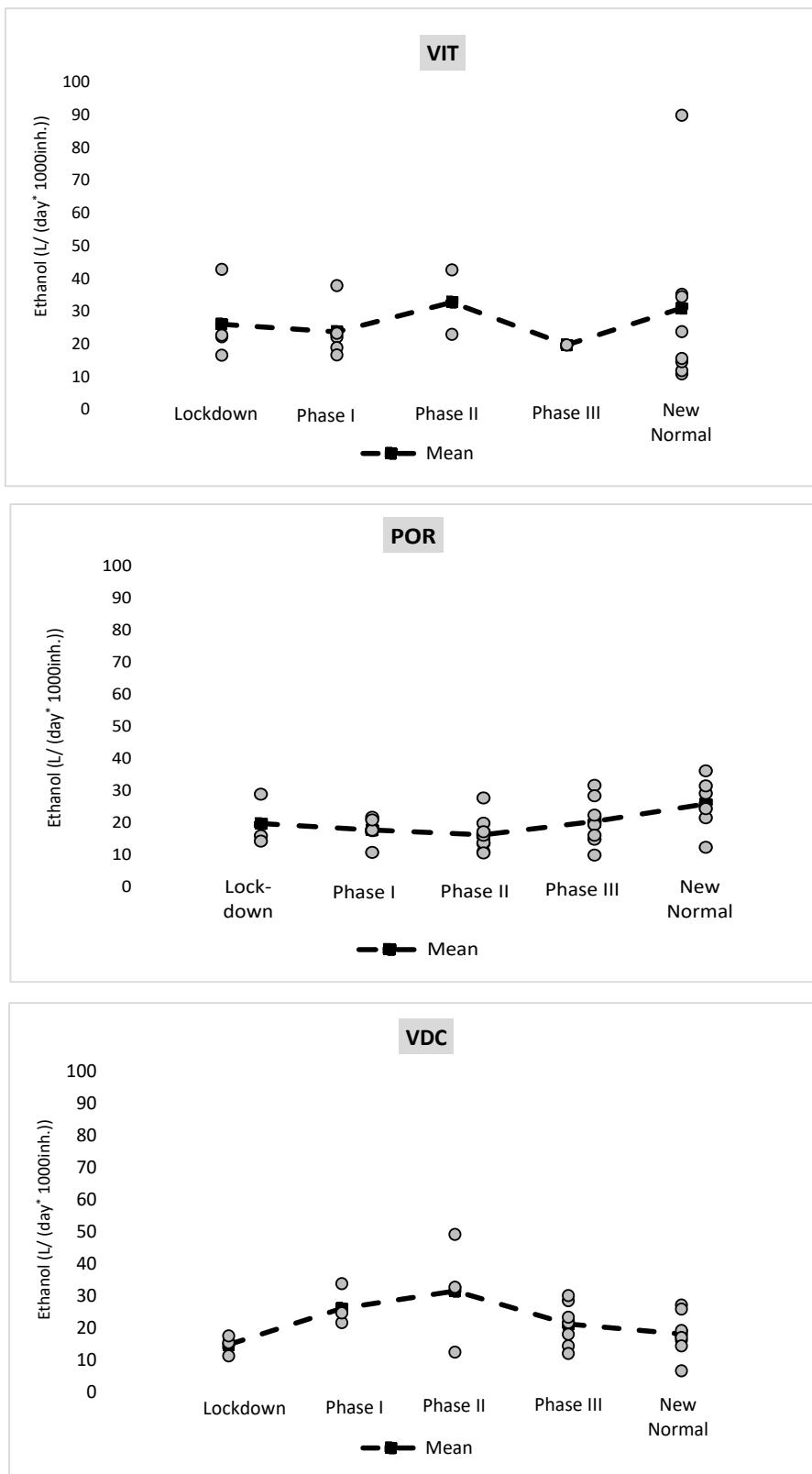


Figure S6 (Cont.) Ethanol consumption in Castellón (CAS), Santiago de Compostela (SAN), Bilbao and its metropolitan area (BIL), Vitoria-Gasteiz (VIT), Porto (POR) and Vila do Conde (VDC). The dashed line represents the mean of each different period.

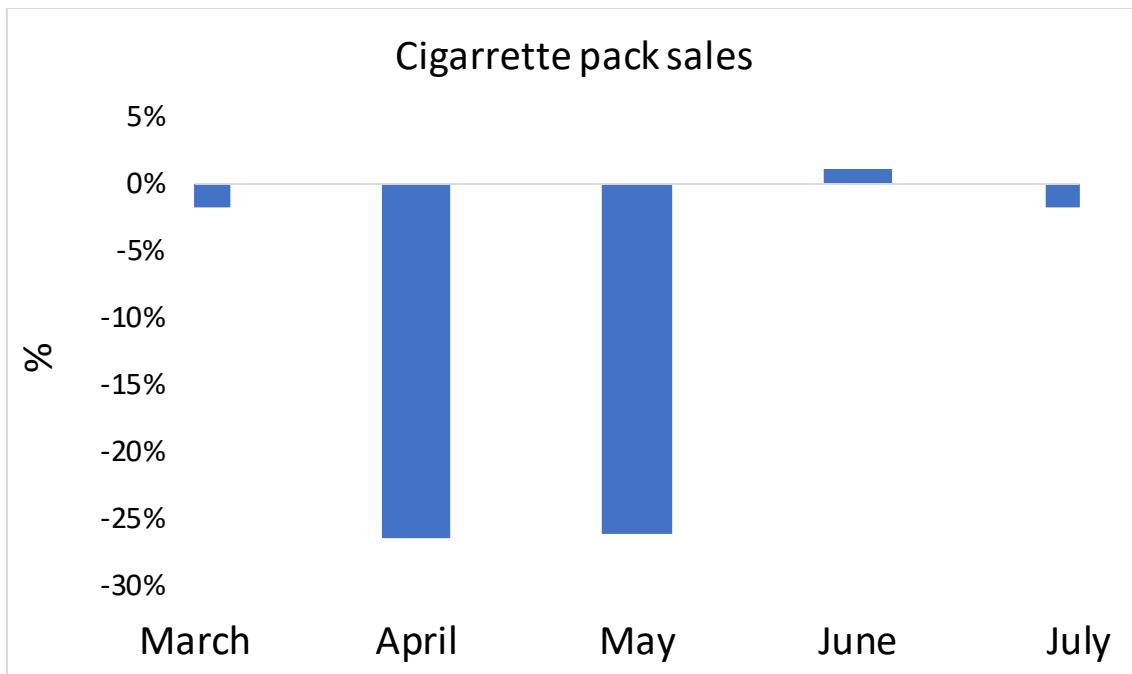


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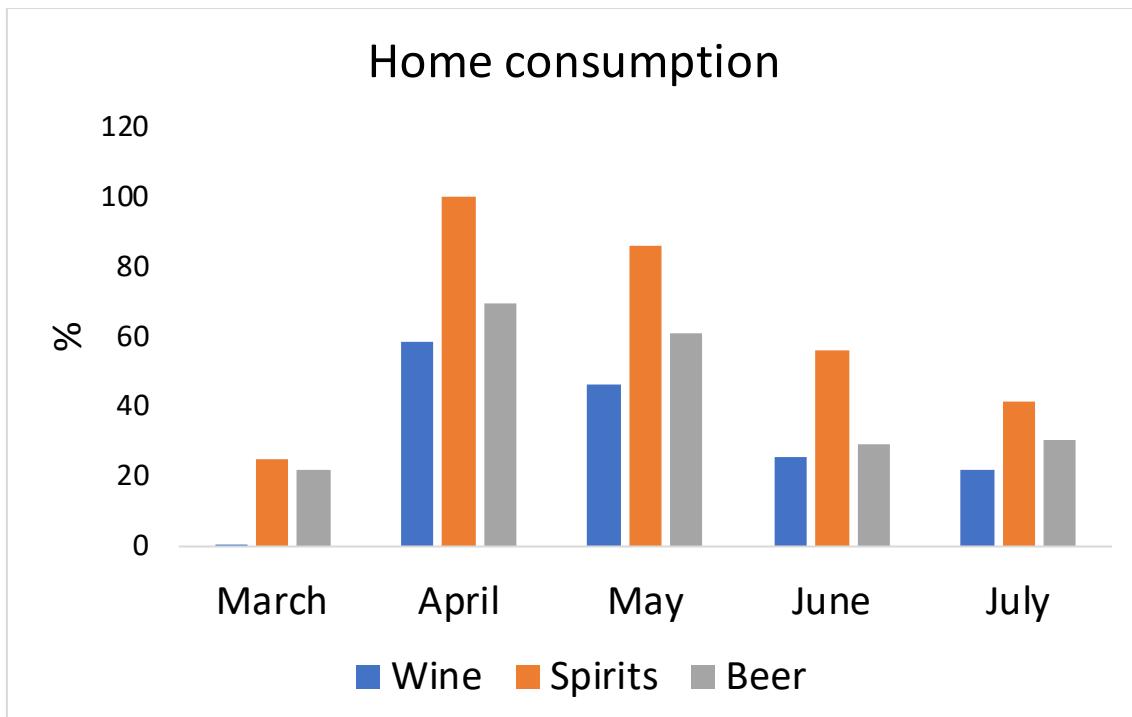


Figure S8. Percent change in the estimated consumption (L) of alcoholic drinks at home when contrasting the same months in 2020 Vs. 2019. Data from the Spanish Panel of Food Consumption at Home, from the Spanish Ministry of Agriculture, Fisheries and Food:
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Table S1. Details on WWTP samples. Sampling Mode: T means time proportional, followed by subsampling interval and volume taken per subsample. Dates presented as DD.MM.YYYY.

Country City	Spain								Portugal			
	Bilbao and its metropolitan area		Castellón		Santiago de Compostela		Vitoria-Gasteiz		Porto		Vila do Conde	
WWTP name	Galindo		Castellón de la Plana		Silvouta		Crispijana		Sobreiras		Ave	
Population served	860,237		179,661		136,500		255,052		150,000		80,000	
Sampling mode	T: 60 min, 100 mL		T: 15 min, 100 mL		T: 60 min, 600 mL *		T: 60 min, 200 mL		T: 15 min, 125 mL		T: 15 min, 125 mL	
Sampling details	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)
	12.06.2019	191603	10.04.2019	38065	21.05.2019*	47188						
	13.06.2019	181234	11.04.2019	37318	22.05.2019*	48858						
	14.06.2019	157339	12.04.2019	38219	24.05.2019*	44786						
	15.06.2019	161906	13.04.2019	37788	25.05.2019*	46072						
	16.06.2019	176885	14.04.2019	37530	26.05.2019*	45045						
	17.06.2019	180991	15.04.2019	36590	27.05.2019*	44514						
	18.06.2019	181426	16.04.2019	37743	28.05.2019*	47630						
	12.06.2019	191603	10.04.2019	38065	21.05.2019*	47188						
	13.04.2020	206554	26.03.2020	41991	10.03.2020*	54450	28.04.2020	138300	19.04.2020	30900	22.04.2020	14354.4
	15.04.2020	161108	27.03.2020	40642	11.03.2020*	52994	29.04.2020	109900	22.04.2020	32286	26.04.2020	13178.4
	19.04.2020	217790	28.03.2020	38283	12.03.2020*	53487	04.05.2020	108900	30.04.2020	31941	29.04.2020	14697.4
	22.04.2020	228370	29.03.2020	35650	13.03.2020*	52696	07.05.2020	89400	03.05.2020	30473	03.05.2020	13161.47
	26.04.2020	193556	30.03.2020	36529	14.03.2020*	51804	11.05.2020	191600	06.05.2020	32546	06.05.2020	16230.97
	03.05.2020	165978	31.03.2020	53317	07.04.2020	52322	14.05.2020	144600	10.05.2020	32717	10.05.2020	14331.97
	06.05.2020	177716	01.04.2020	50862	13.04.2020	49966	18.05.2020	104160	13.05.2020	32490	13.05.2020	15643.97
	10.05.2020	366517	05.04.2020	40075	14.04.2020	50722	21.05.2020	95808	17.05.2020	30130	17.05.2020	13317.97
	13.05.2020	243257	08.04.2020	39721	19.04.2020	52549	25.05.2020	83328	19.05.2020	33110	20.05.2020	11243.97
	17.05.2020	157746	13.04.2020	39621	21.04.2020	54006	01.06.2020	75744	20.05.2020	32320	24.05.2020	14305.97
	20.05.2020	167911	16.04.2020	44040	25.04.2020	50577	08.06.2020	81120	21.05.2020	33650	31.05.2020	17762.97

Sampling details	Sampling date	Flow (m³day⁻¹)										
	24.05.2020	184423	19.04.2020	41374	03.05.2020	58126	15.06.2020	77760	22.05.2020	33430	03.06.2020	16548.43
	31.05.2020	153090	23.04.2020	41165	04.05.2020	57060	22.06.2020	76224	23.05.2020	31880	07.06.2020	12745.43
	03.06.2020	155421	27.04.2020	34479	05.05.2020	55260	29.06.2020	68928	24.05.2020	30890	14.06.2020	18516.43
	07.06.2020	285673	29.04.2020	42244	10.05.2020	51819	07.07.2020	66144	25.05.2020	33350	17.06.2020	13709.43
	10.06.2020	127238	04.05.2020	46270	12.05.2020	53168	08.07.2020	71136	27.05.2020	33360	21.06.2020	14436.43
	14.06.2020	168674	07.05.2020	39013	17.05.2020	51031	09.07.2020	70272	31.05.2020	29840	23.06.2020	14128.43
	17.06.2020	187195	11.05.2020	41112	19.05.2020	49184	10.07.2020	67680	03.06.2020	33510	28.06.2020	12794.43
	21.06.2020	155423	14.05.2020	40871	24.05.2020	48156	11.07.2020	62016	07.06.2020	28860	01.07.2020	13735.95
	24.06.2020	163593	18.05.2020	41452	27.05.2020	46653	12.07.2020	115392	11.06.2020	29160	05.07.2020	13493.28
	28.06.2020	142925	21.05.2020	40931	30.05.2020	45574	13.07.2020	73440	14.06.2020	28000	08.07.2020	14211.45
	01.07.2020	198787	25.05.2020	40571	02.06.2020	46139			17.06.2020	33120	09.07.2020	14050.45
	08.07.2020	182312	28.05.2020	36849	07.06.2020	43619			21.06.2020	29720	10.07.020	15314.45
	09.07.2020	152026	01.06.2020	32910	09.06.2020	42528			24.06.2020	29940	11.07.2020	14347.95
	12.07.2020	287868	04.06.2020	33096	13.06.2020	46169			28.06.2020	29170	12.07.2020	14354.4
	13.07.2020	198190	08.06.2020	36504	16.06.2020	50205			01.07.2020	33870		
			11.06.2020	39931	20.06.2020	46631			05.07.2020	30485		
			15.06.2020	36880	22.06.2020	39922			08.07.2020	32610		
			18.06.2020	36735	23.06.2020	41960			15.07.2020	32190		
			22.06.2020	34673	27.06.2020	43008			19.07.2020	27540		
			25.06.2020	34919	30.06.2020	38943			22.07.2020	32440		
			29.06.2020	37465	08.07.2020*	42774						
			02.07.2020	33141	09.07.2020*	43129						
			06.07.2020	37119	10.07.2020*	41888						
			08.07.2020	35029	11.07.2020*	40442						
			09.07.2020	37450	12.07.2020*	40289						
			10.07.2020	37097	13.07.2020*	38301						
			11.07.2020	35513	14.07.2020*	40497						

Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)	Sampling date	Flow (m ³ day ⁻¹)
	12.07.2020	37960									
	13.07.2020	35970									
	14.07.2020	37410									
	10.07.2020	41991									
	11.07.2020	40642									
	12.07.2020	38283									
	13.07.2020	35650									
	14.07.2020	36529									

* Except those days marked with a * symbol, where the sampling mode was T: 10 min, 120 mL

Table S2. Concentration of each compound in the wastewater samples. MDL: method detection limit.

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	12.06.2019	418	<MDL	41	554	371	128			
	13.06.2019	597	<MDL	35	686	250	112			
	14.06.2019	1278	<MDL	71	3871	653	219			
	15.06.2019	1503	<MDL	76	3577	950	170			
	16.06.2019	1939	<MDL	135	5692	666	247			
	17.06.2019	3581	<MDL	538	6299	2467	188			
	18.06.2019	2667	<MDL	301	6218	1219	215			
	Average 2019 ± SD	1712 ± 1126	<MDL	171 ± 186	3843 ± 2448	939 ± 749	183 ± 49			
Bilbao and its metropolitan area	13.04.2020	1101	<MDL	68	2199	507	144	2953	6107	15230
	15.04.2020	1167	<MDL	55	2240	924	344	1545	4605	18423
	19.04.2020	698	<MDL	62	1873	740	225	1389	2539	14551
	22.04.2020	527	<MDL	42	1036	524	305	1214	1781	20060
	26.04.2020	640	<MDL	58	1432	614	160	1204	2346	23907
	03.05.2020	810	<MDL	72	2180	1263	289	1959	3599	22355
	06.05.2020	1612	<MDL	62	2900	1458	231	3543	7223	20622
	10.05.2020	1038	<MDL	83	2433	633	172	1545	4398	25300
	13.05.2020	626	<MDL	46	1445	733	289	1186	2401	14158
	17.05.2020	2251	<MDL	100	3998	2374	247	3920	7319	32315
	20.05.2020	912	<MDL	47	1677	701	360	1481	3310	22093
	24.05.2020	1253	<MDL	84	2790	1267	358	1517	3434	22549
	31.05.2020	1954	<MDL	116	3501	2353	254	1582	4936	40607
	03.06.2020	904	<MDL	50	2193	1273	159	1407	2249	23624
	07.06.2020	316	<MDL	66	1950	1384	271	1076	1836	25304
	10.06.2020	828	<MDL	50	1919	918	224	1748	2511	17447
	14.06.2020	2461	<MDL	154	4593	3307	214	4159	7250	20290
	17.06.2020	922	<MDL	58	2231	968	322	1941	3407	21396
	21.06.2020	1595	<MDL	117	3367	2454	304	4086	7278	61028
	24.06.2020	2096	<MDL	88	2955	2245	224	3570	8036	34412
	28.06.2020	1659	<MDL	156	3650	2486	179	2374	5694	29522
	01.07.2020	1135	<MDL	87	2596	1174	136	2134	5184	12963
	08.07.2020	1271	<MDL	61	2420	1749	119	1867	3475	21708
	09.07.2020	1561	<MDL	1732	3279	2223	201	2226	5335	32167
	12.07.2020	854	<MDL	134	2073	1102	273	1830	3531	25318
	13.07.2020	925	<MDL	193	3414	1892	602	1784	3641	25180
	Average 2020 ± SD	1197 ± 553	<MDL	147 ± 40 ^a	2552 ± 855	1433 ± 761	254 ± 99	2124 ± 959	4362 ± 1915	24712 ± 9869
Castellón	10.04.2019	<MDL	<MDL	30	2864	1456	377	1867	2208	4618

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	11.04.2019	<MDL	<MDL	22	2826	1264	379	3422	3920	13047
	12.04.2019	<MDL	<MDL	24	2620	1260	354	1783	2060	6308
	13.04.2019	<MDL	<MDL	29	3282	1408	371	3806	4432	24643
	14.04.2019	<MDL	<MDL	119	4372	1860	373	4162	5052	55360
	15.04.2019	<MDL	<MDL	127	4148	1574	334	3778	4325	32558
	16.04.2019	<MDL	<MDL	44	2652	1154	492	3329	3731	16294
	Average 2019 ± SD	<MDL	<MDL	57 ± 46	3252 ± 724	1425 ± 238	383 ± 51	3164 ± 955	3676 ± 1134	21833 ± 17759
	26.03.2020	< MDL	< MDL	20	1461	555	339	2079	4591	20757
	27.03.2020	< MDL	< MDL	26	1990	1010	389	4389	6272	82835
	28.03.2020	< MDL	< MDL	21	1402	401	310	4951	7333	17036
	29.03.2020	< MDL	< MDL	28	1774	536	348	2898	7567	35275
	30.03.2020	< MDL	< MDL	4.5	566	196	294	1177	2222	27829
	31.03.2020	< MDL	< MDL	4.5	452	66	222	1766	1877	13592
	01.04.2020	< MDL	< MDL	4.5	341	271	281	855	1064	34280
	05.04.2020	< MDL	< MDL	24	2772	1268	356	1849	3958	21275
	08.04.2020	< MDL	< MDL	44	2388	508	388	1315	2580	22075
	13.04.2020	< MDL	< MDL	28	1880	424	396	2088	4550	38059
	16.04.2020	< MDL	< MDL	12	1660	672	312	2281	5129	19351
	19.04.2020	< MDL	< MDL	24	1764	456	484	1168	2098	19114
	23.04.2020	< MDL	< MDL	16	2208	604	440	3064	7071	18843
	27.04.2020	< MDL	< MDL	16	1624	436	476	1729	3627	33915
	29.04.2020	< MDL	< MDL	12	1652	892	444	1536	2966	32144
	04.05.2020	< MDL	< MDL	10	1856	424	288	1748	3517	28767
	07.05.2020	< MDL	< MDL	4.5	2396	552	336	1876	4095	18132
	11.05.2020	< MDL	< MDL	12	2692	548	392	1398	3531	22021
	14.05.2020	< MDL	< MDL	4.5	1308	264	304	1076	2497	22312
	18.05.2020	< MDL	< MDL	4.5	1408	416	292	2107	4371	26585
	21.05.2020	< MDL	< MDL	4.5	1392	616	292	1297	2249	22845
	25.05.2020	< MDL	< MDL	4.5	856	572	248	1665	1836	10528
	28.05.2020	< MDL	< MDL	4.5	1300	680	316	1665	3351	16913
	01.06.2020	< MDL	< MDL	11	1588	724	296	1306	2525	28705
	04.06.2020	< MDL	< MDL	20	1800	1140	300	1766	4178	21468
	08.06.2020	< MDL	< MDL	24	2052	212	272	2604	6437	29873
	11.06.2020	< MDL	< MDL	4.5	2272	400	316	1692	3544	18458
	15.06.2020	< MDL	< MDL	36	2460	264	356	2125	4908	41761
	18.06.2020	< MDL	< MDL	4.5	2144	360	400	1711	4082	39930
	22.06.2020	< MDL	< MDL	20	1640	736	348	1416	2924	40966
	25.06.2020	< MDL	< MDL	28	1760	552	316	1287	2676	28362

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
Santiago de Compostela	29.06.2020	< MDL	< MDL	32	2052	1048	552	1508	2814	71848
	02.07.2020	< MDL	< MDL	4.5	2220	328	372	1628	3641	69064
	06.07.2020	< MDL	< MDL	24	2116	312	348	1665	4440	27543
	08.07.2020	< MDL	< MDL	4.5	2252	144	340	2990	7788	42243
	09.07.2020	< MDL	< MDL	4.5	2304	200	316	1812	3944	40070
	10.07.2020	< MDL	< MDL	4.5	1992	1120	264	1821	3668	42581
	11.07.2020	< MDL	< MDL	12	1980	1216	324	1876	3572	34790
	12.07.2020	< MDL	< MDL	32	2324	300	464	1343	3613	86163
	13.07.2020	< MDL	< MDL	44	2128	960	316	1812	4178	24267
	14.07.2020	< MDL	< MDL	10	1836	984	324	1425	3847	24409
	Average 2020 ± SD	<MDL	<MDL	16 ± 12	1806 ± 555	569 ± 315	346 ± 69	1897 ± 803	3930 ± 1604	32121 ± 17421
	21.05.2019	73	< MDL	25	904	555	220	1297	1605	8267
	22.05.2019	79	< MDL	22	1303	559	187	1343	1701	8307
	24.05.2019	47	< MDL	69	1096	863	591	1122	1329	9290
	25.05.2019	< MDL	< MDL	69	2049	793	407	1637	2060	8996
	26.05.2019	52	< MDL	71	1948	668	401	1775	2101	18917
	27.05.2019	< MDL	< MDL	36	1463	539	465	1435	1619	13752
	28.05.2019	46	< MDL	22	1586	616	301	1481	1825	13204
	Average 2019 ± SD	59 ± 16	<MDL	45 ± 23	1479 ± 421	656 ± 127	367 ± 142	1441 ± 218	1749 ± 271	11533 ± 3975
Santiago de Compostela	10.03.2020	< MDL	< MDL	19	877	436	168	794	1565	7355
	11.03.2020	< MDL	< MDL	110	1238	465	170	680	1467	9438
	12.03.2020	< MDL	< MDL	788	1007	341	163	818	1357	9577
	13.03.2020	< MDL	< MDL	47	1352	496	193	735	1274	9046
	14.03.2020	< MDL	< MDL	70	1285	476	179	744	1522	11092
	07.04.2020	< MDL	< MDL	16	990	142	97	763	1412	12926
	13.04.2020	< MDL	< MDL	39	1786	596	162	2017	3153	12929
	14.04.2020	< MDL	< MDL	33	1065	207	165	1076	1440	8010
	19.04.2020	< MDL	< MDL	11	930	119	91	634	1302	10612
	21.04.2020	< MDL	< MDL	26	1097	150	135	883	2186	4947
	25.04.2020	< MDL	< MDL	44	2795	392	120	3451	5252	20513
	03.05.2020	< MDL	< MDL	66	2199	459	205	2097	4099	26808
	04.05.2020	< MDL	< MDL	54	1606	367	128	1538	3526	15824
	05.05.2020	< MDL	< MDL	19	1040	212	109	818	1688	9353
	10.05.2020	< MDL	< MDL	38	1307	211	149	1232	2652	9935
	12.05.2020	< MDL	< MDL	102	2429	463	119	1610	3616	18785
	17.05.2020	< MDL	< MDL	104	2313	329	197	1946	3277	17332
	19.05.2020	< MDL	< MDL	45	1639	309	137	1941	2872	14906
	24.05.2020	< MDL	< MDL	43	1389	318	133	1297	2886	16779

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
Barcelona	27.05.2020	< MDL	< MDL	41	1455	529	104	1711	2390	15191
	30.05.2020	< MDL	< MDL	56	1845	275	161	2123	2435	21289
	02.06.2020	< MDL	< MDL	44	1989	549	125	1822	4244	17413
	07.06.2020	< MDL	< MDL	40	1579	401	109	1273	2407	13654
	09.06.2020	< MDL	< MDL	28	1210	348	219	1536	2073	11161
	13.06.2020	< MDL	< MDL	51	1741	451	200	1297	1743	21889
	16.06.2020	< MDL	< MDL	20	1495	484	205	1085	2115	11930
	20.06.2020	< MDL	< MDL	44	1317	356	152	1485	1662	12000
	22.06.2020	< MDL	< MDL	29	1661	537	183	1536	2046	19999
	23.06.2020	< MDL	< MDL	32	1671	300	306	1435	2197	17845
	27.06.2020	< MDL	< MDL	41	2143	681	270	1674	1936	19097
	30.06.2020	< MDL	< MDL	30	1629	405	231	1435	3355	15089
	08.07.2020	< MDL	< MDL	70	1836	842	273	1491	2760	19898
	09.07.2020	< MDL	< MDL	60	1524	697	546	1428	2116	15793
	10.07.2020	< MDL	< MDL	67	1745	922	243	1553	1656	22001
	11.07.2020	< MDL	< MDL	165	3245	1497	278	1991	2742	37096
	12.07.2020	< MDL	< MDL	128	2104	949	215	1522	1453	24523
	13.07.2020	< MDL	< MDL	104	1884	804	254	1491	2760	20619
	14.07.2020	< MDL	< MDL	102	1928	901	322	1240	1969	19479
	Average 2020 ± SD	<MDL	<MDL	55 ± 34 ^b	1640 ± 518	484 ± 274	189 ± 84	1426 ± 545	2384 ± 928	15845 ± 6266
Vitoria-Gasteiz	28.04.2020	735	<MDL	29	986	283	192	1563	2266	10634
	29.04.2020	856	<MDL	28	1101	526	239	3469	4879	13658
	04.05.2020	886	<MDL	70	2189	1153	299	5418	5956	25966
	07.05.2020	698	<MDL	48	1290	637	261	2955	3457	12300
	11.05.2020	568	<MDL	31	912	259	237	1273	2656	13061
	14.05.2020	961	<MDL	48	1457	749	63	2033	2445	10114
	18.05.2020	782	<MDL	28	1298	677	213	1168	3503	14807
	21.05.2020	812	<MDL	21	1628	966	167	1932	2790	13048
	25.05.2020	551	<MDL	75	1027	364	190	1574	2117	13270
	01.06.2020	1856	<MDL	113	4934	2347	145	6498	8607	37217
	08.06.2020	1295	<MDL	69	2817	1064	201	2424	4769	18708
	15.06.2020	436	<MDL	60	2039	846	260	1680	3388	16809
	22.06.2020	1374	<MDL	100	3235	1520	133	2690	4175	30496
	29.06.2020	951	<MDL	134	3487	259	64	2725	6674	33066
	07.07.2020	717	<MDL	55	1492	586	247	1308	1717	10862
	08.07.2020	758	<MDL	56	1349	532	255	1662	1786	11025
	09.07.2020	873	<MDL	49	1555	740	281	1592	1786	13757
	10.07.2020	1117	<MDL	52	2003	840	211	2371	4216	23282

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	11.07.2020	1088	<MDL	50	1994	1087	138	1290	3029	16633
	12.07.2020	1140	<MDL	93	3201	1478	185	1538	2352	51465
	13.07.2020	1361	<MDL	94	2476	1196	326	1999	2697	38391
	Average 2020 ± SD	944 ± 332	<MDL	62 ± 30	2022 ± 1024	836 ± 533	205 ± 69	2341 ± 1360	3584 ± 1782	20408 ± 11463
Porto	19.04.2020	< MDL	< MDL	192	2455	397	122	2834	3465	36400
	22.04.2020	< MDL	< MDL	42	1479	453	103	2180	2831	19290
	30.04.2020	< MDL	< MDL	76	1444	696	421	2116	2721	17497
	03.05.2020	< MDL	< MDL	109	2129	779	574	2263	2900	27806
	06.05.2020	< MDL	< MDL	90	2496	2159	688	2328	3024	20978
	10.05.2020	< MDL	< MDL	162	2431	1640	267	1969	2583	21149
	13.05.2020	< MDL	< MDL	74	1204	463	355	1637	2170	12953
	17.05.2020	< MDL	< MDL	138	1573	507	554	2061	2459	26992
	19.05.2020	< MDL	< MDL	68	1460	486	482	2061	3423	15978
	20.05.2020	< MDL	< MDL	77	1583	1048	312	1867	3355	19817
	21.05.2020	< MDL	< MDL	53	1589	975	170	1941	3465	12699
	22.05.2020	< MDL	< MDL	77	1442	929	169	1692	3093	16088
	23.05.2020	< MDL	< MDL	134	1585	529	332	1840	3382	33868
	24.05.2020	< MDL	< MDL	196	1654	387	285	2079	4443	25058
	25.05.2020	< MDL	< MDL	89	1306	400	286	1886	4126	18869
	27.05.2020	< MDL	< MDL	68	1466	617	189	1922	4030	20099
	31.05.2020	< MDL	< MDL	127	2369	914	425	2107	4553	13848
	03.06.2020	< MDL	< MDL	81	1837	958	416	1904	3809	36814
	07.06.2020	< MDL	< MDL	164	1822	649	578	2125	4843	27412
	11.06.2020	< MDL	< MDL	105	2004	553	447	2171	4539	25933
	14.06.2020	< MDL	< MDL	194	2261	654	484	2143	4278	13888
	17.06.2020	< MDL	< MDL	80	1879	713	549	1858	3727	17497
	21.06.2020	< MDL	< MDL	119	2084	552	392	2005	4043	37213
	24.06.2020	< MDL	< MDL	278	2153	548	522	1904	4085	21054
	28.06.2020	< MDL	< MDL	146	1850	451	223	2061	4595	29897
	01.07.2020	< MDL	< MDL	95	1643	595	199	2153	4774	33498
	05.07.2020	< MDL	< MDL	181	2306	561	195	2677	5697	40207
	08.07.2020	< MDL	< MDL	83	2300	1736	304	2420	4967	25728
	15.07.2020	< MDL	< MDL	76	1458	659	161	1950	4071	29556
	19.07.2020	< MDL	< MDL	137	2659	472	602	2051	4705	51124
	22.07.2020	< MDL	< MDL	74	1256	987	302	2671	3752	14847
	Average 2020 ± SD	<MDL	<MDL	115 ± 53	1844 ± 417	756 ± 415	358 ± 160	2092 ± 270	3803 ± 842	24647 ± 9366
Vila do Conde	22.04.2020	< MDL	< MDL	22	886	196	107	2245	3437	22471
	26.04.2020	< MDL	< MDL	161	1332	237	120	2281	3644	27726

City	Date (DD.MM.YYYY)	Concentration (ng L ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	29.04.2020	< MDL	< MDL	27	753	137	87	1485	1814	16066
	03.05.2020	< MDL	< MDL	166	1140	244	97	2619	3968	40167
	06.05.2020	< MDL	< MDL	103	753	151	96	2088	3093	43328
	10.05.2020	< MDL	< MDL	97	1012	209	77	1711	2542	36403
	13.05.2020	< MDL	< MDL	28	950	176	82	1978	2969	28861
	17.05.2020	< MDL	< MDL	142	1041	172	74	2079	3093	38574
	20.05.2020	< MDL	< MDL	49	743	156	94	1886	3079	23217
	24.05.2020	< MDL	< MDL	110	1345	253	71	2374	3616	47598
	31.05.2020	< MDL	< MDL	271	2844	441	30	3717	7942	57533
	03.06.2020	< MDL	< MDL	60	1757	355	134	3055	6069	35870
	07.06.2020	< MDL	< MDL	200	2061	339	30	2972	6344	49163
	14.06.2020	< MDL	< MDL	43	519	24	110	1370	2721	16267
	17.06.2020	< MDL	< MDL	46	1274	331	30	2659	5380	32872
	21.06.2020	< MDL	< MDL	39	379	56	133	1020	1880	17486
	23.06.2020	< MDL	< MDL	54	1035	148	146	2134	4691	26606
	28.06.2020	< MDL	< MDL	62	1444	232	133	2484	5531	38007
	01.07.2020	< MDL	< MDL	50	1134	275	149	2254	4939	29201
	05.07.2020	< MDL	< MDL	81	1857	356	30	2677	5972	41879
	08.07.2020	< MDL	< MDL	46	978	232	280	2153	4732	23730
	09.07.2020	< MDL	< MDL	26	1237	228	213	2245	4925	38326
	10.07.2020	< MDL	< MDL	20	492	101	207	1011	1894	9200
	11.07.2020	< MDL	< MDL	48	1490	365	223	2705	5807	24711
	12.07.2020	< MDL	< MDL	155	1714	796	357	1959	4057	20831
Average 2020 ± SD		<MDL	<MDL	84 ± 65	1206 ± 547	248 ± 152	124 ± 79	2206 ± 615	4165 ± 1586	31443 ± 11797

^a Average without considering July 9, 2020.

^b Average without considering March 12, 2020.

Table S3. Excretion loads calculated from the concentrations measured in wastewater (Table S2) after considering WWTP flow data and population served (Table S1)

City	Date (DD.MM.YYYY)	Excretion loads ($\text{mg day}^{-1} \text{1000inhabitant}^{-1}$)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	12.06.2019	94	< MDL	9.2	125	84	29			
	13.06.2019	127	< MDL	8.2	146	53	24			
	14.06.2019	236	< MDL	13	717	121	40			
	15.06.2019	286	< MDL	14	681	181	32			
	16.06.2019	404	< MDL	28	1184	139	51			
	17.06.2019	762	< MDL	115	1341	525	40			
	18.06.2019	569	< MDL	64	1327	260	46			
	Average 2019 ± SD	354 ± 242	<MDL	36 ± 40	789 ± 520	195 ± 161	38 ± 10			
Bilbao and its metropolitan area	13.04.2020	264	<MDL	16	528	122	35	709	1466	3657
	15.04.2020	219	<MDL	10	420	173	64	289	862	3450
	19.04.2020	177	<MDL	16	474	187	57	352	643	3684
	22.04.2020	140	<MDL	11	275	139	81	322	473	5325
	26.04.2020	144	<MDL	13	322	138	36	271	528	5379
	03.05.2020	156	<MDL	14	421	244	56	378	694	4313
	06.05.2020	333	<MDL	13	599	301	48	732	1492	4260
	10.05.2020	442	<MDL	35	1037	270	73	658	1874	10780
	13.05.2020	177	<MDL	13	409	207	82	335	679	4004
	17.05.2020	413	<MDL	18	733	435	45	719	1342	5926
	20.05.2020	178	<MDL	9.2	327	137	70	289	646	4312
	24.05.2020	269	<MDL	18	598	272	77	325	736	4834
	31.05.2020	348	<MDL	21	623	419	45	282	878	4905
	03.06.2020	163	<MDL	9.0	396	230	29	254	406	7227
	07.06.2020	105	<MDL	22	648	460	90	357	610	4268
	10.06.2020	123	<MDL	7.4	284	136	33	258	371	8403
	14.06.2020	483	<MDL	30	901	648	42	816	1422	2581
	17.06.2020	201	<MDL	13	485	211	70	422	741	3978
	21.06.2020	288	<MDL	21	608	443	55	738	1315	4656
	24.06.2020	399	<MDL	17	562	427	43	679	1528	11026
	28.06.2020	276	<MDL	26	606	413	30	394	946	6544
	01.07.2020	262	<MDL	20	600	271	31	493	1198	2996
	08.07.2020	269	<MDL	13	513	371	25	396	737	4601
	09.07.2020	276	<MDL	306	580	393	36	393	943	5685
	12.07.2020	286	<MDL	45	694	369	91	613	1181	8472
	13.07.2020	213	<MDL	45	787	436	139	411	839	5801
	Average 2020 ± SD	253 ± 102	<MDL	19 ± 10	555 ± 183	302 ± 135	57 ± 26	457 ± 182	944 ± 400	5426 ± 2176

City	Date (DD.MM.YYYY)	Excretion loads ($\text{mg day}^{-1} \text{1000inhabitant}^{-1}$)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	10.04.2019	<MDL	<MDL	6.8	638	324	84	416	492	1029
	11.04.2019	<MDL	<MDL	4.9	617	276	83	747	856	2849
	12.04.2019	<MDL	<MDL	5.4	586	282	79	399	461	1411
	13.04.2019	<MDL	<MDL	6.5	726	311	82	842	980	5449
	14.04.2019	<MDL	<MDL	26	960	408	82	914	1110	12158
	15.04.2019	<MDL	<MDL	27	888	337	71	809	926	6971
	16.04.2019	<MDL	<MDL	9.7	586	255	109	735	824	3599
	Average 2019 ± SD	<MDL	<MDL	12 ± 10	714 ± 152	313 ± 51	84 ± 12	695 ± 205	807 ± 244	4781 ± 3878
Castellón	26.03.2020	< MDL	< MDL	4.7	130	342	79	486	1073	4851
	27.03.2020	< MDL	< MDL	5.8	228	450	88	993	1419	18738
	28.03.2020	< MDL	< MDL	4.4	85	299	66	1055	1563	3630
	29.03.2020	< MDL	< MDL	5.5	106	352	69	575	1502	7000
	30.03.2020	< MDL	< MDL	0.9	40	115	60	239	452	5658
	31.03.2020	< MDL	< MDL	1.3	19	134	66	524	557	4034
	01.04.2020	< MDL	< MDL	1.3	77	97	80	242	301	9705
	05.04.2020	< MDL	< MDL	5.4	283	618	79	412	883	4746
	08.04.2020	< MDL	< MDL	9.7	112	528	86	291	570	4881
	13.04.2020	< MDL	< MDL	6.2	94	415	87	461	1003	8393
	16.04.2020	< MDL	< MDL	2.9	165	407	76	559	1257	4743
	19.04.2020	< MDL	< MDL	5.5	105	406	111	269	483	4402
	23.04.2020	< MDL	< MDL	3.7	138	506	101	702	1620	4317
	27.04.2020	< MDL	< MDL	3.1	84	312	91	332	696	6509
	29.04.2020	< MDL	< MDL	2.8	210	388	104	361	697	7558
	04.05.2020	< MDL	< MDL	2.6	109	478	74	450	906	7409
	07.05.2020	< MDL	< MDL	1.0	120	520	73	407	889	3937
	11.05.2020	< MDL	< MDL	2.7	125	616	90	320	808	5039
	14.05.2020	< MDL	< MDL	1.0	60	298	69	245	568	5076
	18.05.2020	< MDL	< MDL	1.0	96	325	67	486	1008	6134
	21.05.2020	< MDL	< MDL	1.0	140	317	67	295	512	5205
	25.05.2020	< MDL	< MDL	1.0	129	193	56	376	415	2377
	28.05.2020	< MDL	< MDL	0.9	139	267	65	341	687	3469
	01.06.2020	< MDL	< MDL	2.0	133	291	54	239	462	5258
	04.06.2020	< MDL	< MDL	3.7	210	332	55	325	770	3955
	08.06.2020	< MDL	< MDL	4.9	43	417	55	529	1308	6070
	11.06.2020	< MDL	< MDL	1.0	89	505	70	376	788	4102
	15.06.2020	< MDL	< MDL	7.4	54	505	73	436	1008	8572
	18.06.2020	< MDL	< MDL	0.9	74	438	82	350	835	8164
	22.06.2020	< MDL	< MDL	3.9	142	317	67	273	564	7906

City	Date (DD.MM.YYYY)	Excretion loads (mg day ⁻¹ 1000inhabitant ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
Santiago de Compostela	25.06.2020	< MDL	< MDL	5.4	107	342	61	250	520	5512
	29.06.2020	< MDL	< MDL	6.7	219	428	115	315	587	14983
	02.07.2020	< MDL	< MDL	0.8	61	410	69	300	672	12740
	06.07.2020	< MDL	< MDL	5.0	64	437	72	344	917	5690
	08.07.2020	< MDL	< MDL	0.9	28	439	66	583	1518	8236
	09.07.2020	< MDL	< MDL	0.9	42	480	66	378	822	8353
	10.07.2020	< MDL	< MDL	0.9	231	411	55	376	757	8792
	11.07.2020	< MDL	< MDL	2.4	240	391	64	371	706	6877
	12.07.2020	< MDL	< MDL	6.8	63	491	98	284	763	18205
	13.07.2020	< MDL	< MDL	8.8	192	426	63	363	836	4859
	14.07.2020	< MDL	< MDL	2.1	205	382	67	297	801	5083
	Average 2020 ± SD	<MDL	<MDL	3.4 ± 2.4	122 ± 65	386 ± 118	75 ± 15	410 ± 177	842 ± 335	6858 ± 3619
	21.05.2019	25	< MDL	9	312	192	76	464	574	2959
	22.05.2019	28	< MDL	8	467	200	67	441	558	2725
	24.05.2019	15	< MDL	23	359	283	194	379	449	3136
	25.05.2019	< MDL	< MDL	23	692	268	137	540	680	2969
	26.05.2019	17	< MDL	23	643	220	132	579	685	6169
	27.05.2019	< MDL	< MDL	12	477	176	152	501	565	4798
	28.05.2019	16	< MDL	8	554	215	105	514	633	4582
	Average 2019 ± SD	15 ± 11	<MDL	15 ± 8	501 ± 139	222 ± 40	123 ± 44	488 ± 67	592 ± 82	3905 ± 1300
Santiago de Compostela	10.03.2020	< MDL	< MDL	7.6	350	174	67	317	624	2934
	11.03.2020	< MDL	< MDL	43	481	180	66	264	570	3664
	12.03.2020	< MDL	< MDL	309	395	133	64	320	532	3753
	13.03.2020	< MDL	< MDL	18	522	191	75	284	492	3492
	14.03.2020	< MDL	< MDL	27	488	181	68	282	578	4210
	07.04.2020	< MDL	< MDL	6.0	379	54	37	292	541	4955
	13.04.2020	< MDL	< MDL	14	654	218	59	738	1154	4733
	14.04.2020	< MDL	< MDL	12	396	77	61	400	535	2977
	19.04.2020	< MDL	< MDL	7.6	358	46	35	244	501	4086
	21.04.2020	< MDL	< MDL	4.3	434	59	53	349	865	1957
	25.04.2020	< MDL	< MDL	10	1036	145	45	1279	1946	7600
	03.05.2020	< MDL	< MDL	16	936	195	87	893	1745	11416
	04.05.2020	< MDL	< MDL	28	671	153	53	643	1474	6615
	05.05.2020	< MDL	< MDL	22	421	86	44	331	683	3787
	10.05.2020	< MDL	< MDL	7.6	496	80	57	468	1007	3772
	12.05.2020	< MDL	< MDL	14	946	181	46	627	1409	7317
	17.05.2020	< MDL	< MDL	40	865	123	74	727	1225	6480
	19.05.2020	< MDL	< MDL	39	590	111	49	699	1035	5371

City	Date (DD.MM.YYYY)	Excretion loads (mg day ⁻¹ 1000inhabitant ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	24.05.2020	< MDL	< MDL	16	490	112	47	457	1018	5920
	27.05.2020	< MDL	< MDL	15	497	181	36	585	817	5192
	30.05.2020	< MDL	< MDL	14	616	92	54	709	813	7108
	02.06.2020	< MDL	< MDL	19	672	185	42	616	1434	5886
	07.06.2020	< MDL	< MDL	15	504	128	35	582	1356	4363
	09.06.2020	< MDL	< MDL	13	377	108	68	397	750	3477
	13.06.2020	< MDL	< MDL	8.7	589	153	68	439	589	7404
	16.06.2020	< MDL	< MDL	17	550	178	75	399	778	4388
	20.06.2020	< MDL	< MDL	8	450	121	52	507	568	4099
	22.06.2020	< MDL	< MDL	15	486	157	53	449	598	5849
	23.06.2020	< MDL	< MDL	7.5	514	92	94	441	675	5485
	27.06.2020	< MDL	< MDL	10	675	214	85	527	610	6017
	30.06.2020	< MDL	< MDL	13	465	115	66	409	957	4305
	08.07.2020	< MDL	< MDL	8.6	575	264	85	467	865	6235
	09.07.2020	< MDL	< MDL	22	482	220	172	451	669	4990
	10.07.2020	< MDL	< MDL	19	535	283	75	477	508	6752
	11.07.2020	< MDL	< MDL	21	961	444	82	590	812	10991
	12.07.2020	< MDL	< MDL	49	621	280	63	449	429	7238
	13.07.2020	< MDL	< MDL	38	529	226	71	418	774	5786
	14.07.2020	< MDL	< MDL	29	572	267	96	368	584	5779
Average 2020 ± SD		<MDL	<MDL	26 ± 19	567 ± 174	163 ± 78	65± 24	497 ± 200	856 ± 372	5431 ± 1972
Vitoria-Gasteiz	28.04.2020	399	<MDL	16	535	154	104	848	1229	5766
	29.04.2020	369	<MDL	12	475	227	103	1495	2102	5885
	04.05.2020	378	<MDL	30	934	492	128	2313	2543	11087
	07.05.2020	245	<MDL	17	452	223	91	1036	1212	4311
	11.05.2020	426	<MDL	23	685	195	178	956	1995	9812
	14.05.2020	545	<MDL	27	826	425	36	1153	1386	5734
	18.05.2020	319	<MDL	11	530	276	87	477	1431	6047
	21.05.2020	305	<MDL	7.9	612	363	63	726	1048	4901
	25.05.2020	180	<MDL	25	335	119	62	514	692	4335
	01.06.2020	551	<MDL	34	1465	697	43	1930	2556	11052
	08.06.2020	412	<MDL	22	896	338	64	771	1517	5950
	15.06.2020	133	<MDL	18	622	258	79	512	1033	5125
	22.06.2020	411	<MDL	30	967	454	40	804	1248	9114
	29.06.2020	257	<MDL	36	942	70	17	736	1804	8936
	07.07.2020	186	<MDL	14	387	152	64	339	445	2817
	08.07.2020	211	<MDL	16	376	148	71	464	498	3075
	09.07.2020	241	<MDL	14	428	204	77	438	492	3790

City	Date (DD.MM.YYYY)	Excretion loads (mg day ⁻¹ 1000inhabitant ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	10.07.2020	296	<MDL	14	532	223	56	629	1119	6178
	11.07.2020	264	<MDL	12	485	264	34	314	736	4044
	12.07.2020	516	<MDL	42	1448	669	84	696	1064	23284
	13.07.2020	392	<MDL	27	713	344	94	576	777	11054
	Average 2020 ± SD	335 ± 120	<MDL	22 ± 9	697 ± 320	289 ± 181	75± 36	844 ± 513	1282 ± 624	7252 ± 4532
Porto	19.04.2020	< MDL	< MDL	39	506	82	25	584	714	7498
	22.04.2020	< MDL	< MDL	9.1	318	97	22	469	609	4152
	30.04.2020	< MDL	< MDL	16	307	148	90	451	579	3726
	03.05.2020	< MDL	< MDL	22	433	158	117	460	589	5649
	06.05.2020	< MDL	< MDL	20	542	468	149	505	656	4552
	10.05.2020	< MDL	< MDL	35	530	358	58	429	563	4613
	13.05.2020	< MDL	< MDL	16	261	100	77	355	470	2806
	17.05.2020	< MDL	< MDL	28	316	102	111	414	494	5422
	19.05.2020	< MDL	< MDL	15	322	107	106	455	756	3527
	20.05.2020	< MDL	< MDL	17	341	226	67	402	723	4270
	21.05.2020	< MDL	< MDL	12	357	219	38	435	777	2849
	22.05.2020	< MDL	< MDL	17	321	207	38	377	689	3585
	23.05.2020	< MDL	< MDL	28	337	112	71	391	719	7198
	24.05.2020	< MDL	< MDL	40	341	80	59	428	915	5160
	25.05.2020	< MDL	< MDL	20	290	89	63	419	917	4195
	27.05.2020	< MDL	< MDL	15	326	137	42	428	896	4470
	31.05.2020	< MDL	< MDL	25	471	182	84	419	906	2755
	03.06.2020	< MDL	< MDL	18	410	214	93	425	851	8224
	07.06.2020	< MDL	< MDL	31	351	125	111	409	932	5274
	11.06.2020	< MDL	< MDL	20	390	107	87	422	882	5041
	14.06.2020	< MDL	< MDL	36	422	122	90	400	798	2592
	17.06.2020	< MDL	< MDL	18	415	157	121	410	823	3863
	21.06.2020	< MDL	< MDL	24	413	109	78	397	801	7373
	24.06.2020	< MDL	< MDL	55	430	109	104	380	815	4202
	28.06.2020	< MDL	< MDL	28	360	88	43	401	893	5814
	01.07.2020	< MDL	< MDL	22	371	134	45	486	1078	7564
	05.07.2020	< MDL	< MDL	37	469	114	40	544	1158	8171
	08.07.2020	< MDL	< MDL	18	500	377	6.6	526	1080	5593
	15.07.2020	< MDL	< MDL	16	313	141	35	418	874	6343
	19.07.2020	< MDL	< MDL	25	488	87	110	377	864	9386
	22.07.2020	< MDL	< MDL	16	272	213	6.5	578	811	3211
	Average 2020 ± SD	<MDL	<MDL	24 ± 10	385 ± 78	160 ± 92	74± 32	438 ± 57	795 ± 165	5131 ± 1822
Vila do Conde	22.04.2020	< MDL	< MDL	3.9	159	35	19	403	617	4032

City	Date (DD.MM.YYYY)	Excretion loads (mg day ⁻¹ 1000inhabitant ⁻¹)								
		AMP	MAMP	MDMA	BE	COC	THC-COOH	COT	OH-COT	EtS
	26.04.2020	< MDL	< MDL	26	219	39	20	376	600	4567
	29.04.2020	< MDL	< MDL	4.9	138	25	16	273	333	2952
	03.05.2020	< MDL	< MDL	27	188	40	16	431	653	6608
	06.05.2020	< MDL	< MDL	21	153	31	19	424	627	8791
	10.05.2020	< MDL	< MDL	17	181	37	14	306	455	6522
	13.05.2020	< MDL	< MDL	5.4	186	34	16	387	581	5644
	17.05.2020	< MDL	< MDL	24	173	29	12	346	515	6422
	20.05.2020	< MDL	< MDL	6.9	104	22	13	265	433	3263
	24.05.2020	< MDL	< MDL	20	241	45	13	424	647	8512
	31.05.2020	< MDL	< MDL	60	631	98	7	825	1763	12774
	03.06.2020	< MDL	< MDL	12	363	73	28	632	1255	7420
	07.06.2020	< MDL	< MDL	32	328	54	5	473	1011	7832
	14.06.2020	< MDL	< MDL	10	120	6	26	317	630	3765
	17.06.2020	< MDL	< MDL	8.0	218	57	5	456	922	5633
	21.06.2020	< MDL	< MDL	7.1	68	10	24	184	339	3155
	23.06.2020	< MDL	< MDL	10	183	26	26	377	828	4699
	28.06.2020	< MDL	< MDL	10	231	37	21	397	885	6079
	01.07.2020	< MDL	< MDL	8.5	195	47	26	387	848	5014
	05.07.2020	< MDL	< MDL	14	313	60	5	452	1007	7064
	08.07.2020	< MDL	< MDL	8.2	174	41	50	382	841	4215
	09.07.2020	< MDL	< MDL	4.6	217	40	37	394	865	6731
	10.07.2020	< MDL	< MDL	3.9	94	19	40	194	363	1761
	11.07.2020	< MDL	< MDL	8.5	267	65	40	485	1041	4432
	12.07.2020	< MDL	< MDL	28	309	144	64	354	732	3759
Average 2020 ± SD		<MDL	<MDL	16 ± 13	218 ± 113	45 ± 29	22± 15	398 ± 129	751 ± 318	5665 ± 2349

Table S4. Human consumption calculated from the excretion loads (Table S3) after considering the corresponding CFs. THC: tetrahydrocannabinol, NIC: Nicotine.

City	Date (DD.MM.YYYY)	Human consumption (mg day ⁻¹ 1000 inhabitant ⁻¹)						Human consumption (L day ⁻¹ 1000inhabitant ⁻¹)
		AMP	MAMP	MDMA	COC from BE	THC from THC- COOH CF:182	THC from THC-COOH CF:36.4	
	12.06.2019	261	<MDL	23	448	5254	1051	
	13.06.2019	353	<MDL	18	525	4361	872	
	14.06.2019	655	<MDL	32	2573	7366	1473	
	15.06.2019	793	<MDL	35	2446	5881	1176	
	16.06.2019	1118	<MDL	69	4252	9365	1873	
	17.06.2019	2112	<MDL	280	4815	7295	1459	
	18.06.2019	1577	<MDL	157	4765	8364	1673	
	Average 2019 ± SD	981 ± 672	<MDL	88 ± 97	2832 ± 1867	6841 ± 1768	1368 ± 354	
Bilbao and its metropolitan area	13.04.2020	732	<MDL	72	1896	6280	1256	2599
	15.04.2020	605	<MDL	45	1506	11730	2346	1311
	19.04.2020	489	<MDL	69	1702	10379	2076	1209
	22.04.2020	388	<MDL	50	987	14734	2947	997
	26.04.2020	399	<MDL	58	1157	6538	1308	962
	03.05.2020	433	<MDL	61	1510	10134	2027	1303
	06.05.2020	922	<MDL	56	2151	8683	1737	2662
	10.05.2020	1225	<MDL	155	3721	13372	2674	2899
	13.05.2020	491	<MDL	57	1467	14895	2979	1215
	17.05.2020	1143	<MDL	80	2632	8229	1646	2498
	20.05.2020	493	<MDL	41	1175	12803	2561	1105
	24.05.2020	744	<MDL	79	2147	13978	2796	1252
	31.05.2020	963	<MDL	91	2237	8229	1646	1313
	03.06.2020	452	<MDL	40	1422	5216	1043	819
	07.06.2020	291	<MDL	97	2325	16357	3271	1187
	10.06.2020	339	<MDL	33	1019	6025	1205	793
	14.06.2020	1337	<MDL	133	3233	7654	1531	2738
	17.06.2020	556	<MDL	56	1743	12765	2553	1423
	21.06.2020	798	<MDL	93	2184	9981	1996	2505
	24.06.2020	1104	<MDL	73	2017	7750	1550	2606
	28.06.2020	763	<MDL	114	2177	5399	1080	1569
	01.07.2020	726	<MDL	89	2153	5728	1146	1976
	08.07.2020	746	<MDL	57	1841	4591	918	1373
	09.07.2020	764	<MDL	-	2081	6464	1293	1564
								22.0

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)						Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)
		AMP	MAMP	MDMA	COC from BE	THC from THC-COOH CF:182	THC from THC-COOH CF:36.4	
	12.07.2020	792	<MDL	198	2490	16631	3326	2164
	13.07.2020	590	<MDL	196	2824	25236	5047	1496
	Average 2020 ± SD	703 ± 282	<MDL	84 ± 45	1992 ± 656	10376 ± 4772	2075 ± 954	1674 ± 672
	10.04.2019	< MDL	< MDL	30	2290	15292	3058	1175
	11.04.2019	< MDL	< MDL	22	2216	15055	3011	2085
	12.04.2019	< MDL	< MDL	24	2104	14409	2882	1117
	13.04.2019	< MDL	< MDL	28	2605	14939	2988	2364
	14.04.2019	< MDL	< MDL	115	3447	14917	2983	2610
	15.04.2019	< MDL	< MDL	120	3188	13000	2600	2257
	16.04.2019	< MDL	< MDL	43	2103	19761	3952	2034
	Average 2019 ± SD	<MDL	<MDL	54 ± 44	2565 ± 547	15339 ± 2094	3068 ± 419	1949 ± 580
	26.03.2020	< MDL	< MDL	21	466	14412	2882	1846
	27.03.2020	< MDL	< MDL	25	820	16007	3201	3038
	28.03.2020	< MDL	< MDL	20	307	12022	2404	3279
	29.03.2020	< MDL	< MDL	24	382	12553	2511	2404
	30.03.2020	< MDL	< MDL	4.0	143	10879	2176	836
	31.03.2020	< MDL	< MDL	5.9	70	11969	2394	1421
	01.04.2020	< MDL	< MDL	5.6	276	14489	2898	698
	05.04.2020	< MDL	< MDL	24	1015	14452	2890	1540
	08.04.2020	< MDL	< MDL	43	403	15612	3122	1036
	13.04.2020	< MDL	< MDL	27	336	15894	3179	1736
	16.04.2020	< MDL	< MDL	13	591	13919	2784	2145
	19.04.2020	< MDL	< MDL	24	377	20286	4057	916
	23.04.2020	< MDL	< MDL	16	497	18348	3670	2733
	27.04.2020	< MDL	< MDL	14	300	16626	3325	1225
	29.04.2020	< MDL	< MDL	12	753	19001	3800	1277
	04.05.2020	< MDL	< MDL	11	392	13499	2700	1626
	07.05.2020	< MDL	< MDL	4.3	430	13279	2656	1538
	11.05.2020	< MDL	< MDL	12	450	16326	3265	1311
	14.05.2020	< MDL	< MDL	4.5	216	12587	2517	956
	18.05.2020	< MDL	< MDL	4.6	345	12262	2452	1784
	21.05.2020	< MDL	< MDL	4.5	504	12107	2421	989
	25.05.2020	< MDL	< MDL	4.5	464	10193	2039	1034
	28.05.2020	< MDL	< MDL	4.1	501	11796	2359	1234
	01.06.2020	< MDL	< MDL	8.9	476	9868	1974	846
Castellón								20.3

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)							Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)
		AMP	MAMP	MDMA	COC from BE	THC from THC-COOH CF:182	THC from THC-COOH CF:36.4	NIC from OH-COT and COT	
	04.06.2020	< MDL	< MDL	16	754	10058	2012	1284	15.3
	08.06.2020	< MDL	< MDL	21	155	10058	2012	2142	23.4
	11.06.2020	< MDL	< MDL	4.4	319	12782	2556	1388	15.8
	15.06.2020	< MDL	< MDL	33	195	13300	2660	1699	33.1
	18.06.2020	< MDL	< MDL	4.0	264	14885	2977	1387	31.5
	22.06.2020	< MDL	< MDL	17	510	12223	2445	1001	30.5
	25.06.2020	< MDL	< MDL	24	385	11178	2236	920	21.3
	29.06.2020	< MDL	< MDL	29	785	20950	4190	1092	57.9
	02.07.2020	< MDL	< MDL	3.7	217	12489	2498	1149	49.2
	06.07.2020	< MDL	< MDL	22	231	13086	2617	1456	22.0
	08.07.2020	< MDL	< MDL	3.9	101	12065	2413	2433	31.8
	09.07.2020	< MDL	< MDL	4.1	150	11988	2398	1423	32.3
	10.07.2020	< MDL	< MDL	4.1	830	9921	1984	1359	34.0
	11.07.2020	< MDL	< MDL	10	863	11656	2331	1302	26.6
	12.07.2020	< MDL	< MDL	30	228	17843	3569	1207	70.3
	13.07.2020	< MDL	< MDL	39	690	11515	2303	1411	18.8
	14.07.2020	< MDL	< MDL	9.2	736	12279	2456	1265	19.6
	Average 2020 ± SD	<MDL	<MDL	15 ± 11	437 ± 235	13577 ± 2806	2715 ± 561	1497 ± 594	26.5 ± 14.0
Santiago de Compostela	21.05.2019	70	< MDL	38	1122	18588	3718	1336	11.4
	22.05.2019	78	< MDL	35	1675	31836	6367	1280	10.5
	24.05.2019	42	< MDL	99	1291	28691	5738	1071	12.1
	25.05.2019	< MDL	< MDL	102	2483	14453	2891	1565	11.5
	26.05.2019	47	< MDL	102	2308	14426	2885	1636	23.8
	27.05.2019	< MDL	< MDL	52	1713	23978	4796	1389	18.5
	28.05.2019	45	< MDL	33	1987	20979	4196	1476	17.7
	Average 2019 ± SD	57 ± 16	<MDL	64 ± 34	1797 ± 500	21850 ± 6737	4370 ± 1347	1393 ± 190	15.1 ± 5.0
	10.03.2020	< MDL	< MDL	33	1256	12212	2442	1132	11.3
	11.03.2020	< MDL	< MDL	189	1725	12001	2400	990	14.1
	12.03.2020	< MDL	< MDL	-	1417	11598	2320	1050	14.5
	13.03.2020	< MDL	< MDL	80	1873	13593	2719	950	13.5
	14.03.2020	< MDL	< MDL	117	1751	12391	2478	1029	16.3
	07.04.2020	< MDL	< MDL	26	1362	6759	1352	1011	19.1
	13.04.2020	< MDL	< MDL	63	2347	10796	2159	2352	18.3
	14.04.2020	< MDL	< MDL	53	1421	11174	2235	1188	11.5
	19.04.2020	< MDL	< MDL	19	1286	6403	1281	891	15.8

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)						Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)	
		AMP	MAMP	MDMA	COC from BE	THC from THC- COOH CF:182	THC from THC-COOH CF:36.4		
	21.04.2020	< MDL	< MDL	45	1558	9711	1942	1416	7.62
	25.04.2020	< MDL	< MDL	72	3718	8113	1623	4025	29.4
	03.05.2020	< MDL	< MDL	123	3362	15913	3183	3177	44.1
	04.05.2020	< MDL	< MDL	99	2409	9703	1941	2493	25.5
	05.05.2020	< MDL	< MDL	33	1511	8048	1610	1212	14.6
	10.05.2020	< MDL	< MDL	64	1781	10284	2057	1752	14.6
	12.05.2020	< MDL	< MDL	175	3396	8419	1684	2404	28.3
	17.05.2020	< MDL	< MDL	170	3105	13393	2679	2401	25.0
	19.05.2020	< MDL	< MDL	72	2119	8977	1795	2173	20.7
	24.05.2020	< MDL	< MDL	67	1759	8511	1702	1745	22.9
	27.05.2020	< MDL	< MDL	62	1786	6488	1298	1771	20.1
	30.05.2020	< MDL	< MDL	82	2211	9812	1962	1979	27.4
	02.06.2020	< MDL	< MDL	66	2413	7710	1542	2409	22.7
	07.06.2020	< MDL	< MDL	56	1811	6352	1270	2278	16.8
	09.06.2020	< MDL	< MDL	38	1354	12424	2485	1387	13.4
	13.06.2020	< MDL	< MDL	76	2114	12316	2463	1306	28.6
	16.06.2020	< MDL	< MDL	33	1974	13703	2741	1417	16.9
	20.06.2020	< MDL	< MDL	66	1616	9422	1884	1403	15.8
	22.06.2020	< MDL	< MDL	38	1744	9734	1947	1333	22.6
	23.06.2020	< MDL	< MDL	43	1844	17147	3429	1392	21.2
	27.06.2020	< MDL	< MDL	57	2424	15471	3094	1477	23.2
	30.06.2020	< MDL	< MDL	38	1668	12003	2401	1605	16.6
	08.07.2020	< MDL	< MDL	96	2065	15551	3110	1616	24.1
	09.07.2020	< MDL	< MDL	84	1729	31377	6275	1403	19.3
	10.07.2020	< MDL	< MDL	91	1922	13569	2714	1294	26.1
	11.07.2020	< MDL	< MDL	215	3451	14980	2996	1776	42.4
	12.07.2020	< MDL	< MDL	167	2230	11553	2311	1172	28.0
	13.07.2020	< MDL	< MDL	128	1898	12953	2591	1447	22.3
	14.07.2020	< MDL	< MDL	133	2054	17403	3481	1181	22.3
Average 2020 ± SD		<MDL	<MDL	83 ± 49	2039 ± 628	11789 ± 4431	2358 ± 886	1659 ± 663	21.0 ± 7.6
Vitoria-Gasteiz	28.04.2020	1104	<MDL	70	1919	18972	3794	2610	22.3
	29.04.2020	1021	<MDL	53	1704	18707	3741	4541	22.7
	04.05.2020	1048	<MDL	131	3355	23263	4653	6354	42.8
	07.05.2020	678	<MDL	73	1623	16649	3330	2914	16.7
	11.05.2020	1181	<MDL	102	2459	32392	6478	3521	37.9

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)						Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)
		AMP	MAMP	MDMA	COC from BE	THC from THC- COOH CF:182	THC from THC-COOH CF:36.4	
	14.05.2020	1509	<MDL	119	2965	6489	1298	3279
	18.05.2020	885	<MDL	50	1904	15866	3173	2169
	21.05.2020	845	<MDL	35	2196	11394	2279	2230
	25.05.2020	498	<MDL	108	1204	11322	2264	1532
	01.06.2020	1527	<MDL	148	5260	7822	1564	5713
	08.06.2020	1141	<MDL	97	3217	11633	2327	2752
	15.06.2020	368	<MDL	80	2232	14447	2889	1852
	22.06.2020	1137	<MDL	132	3471	7248	1450	2553
	29.06.2020	712	<MDL	159	3383	3133	627	2965
	07.07.2020	515	<MDL	63	1389	11666	2333	1000
	08.07.2020	585	<MDL	68	1350	12959	2592	1263
	09.07.2020	667	<MDL	60	1538	14100	2820	1214
	10.07.2020	821	<MDL	61	1909	10172	2034	2133
	11.07.2020	733	<MDL	53	1740	6103	1221	1233
	12.07.2020	1429	<MDL	185	5200	15211	3042	2195
	13.07.2020	1086	<MDL	120	2559	17093	3419	1717
	Average 2020 \pm SD	928 \pm 331	<MDL	94 \pm 41	2503 \pm 1150	13650 \pm 6525	2730 \pm 1305	2654 \pm 1421
								28.0 \pm 17.5
Porto	19.04.2020	< MDL	< MDL	174	1815	4557	911	1672
	22.04.2020	< MDL	< MDL	40	1143	4036	807	1378
	30.04.2020	< MDL	< MDL	72	1104	16333	3267	1317
	03.05.2020	< MDL	< MDL	97	1553	21225	4245	1342
	06.05.2020	< MDL	< MDL	86	1944	27181	5436	1483
	10.05.2020	< MDL	< MDL	156	1904	10600	2120	1266
	13.05.2020	< MDL	< MDL	71	936	13976	2795	1050
	17.05.2020	< MDL	< MDL	122	1134	20252	4050	1174
	19.05.2020	< MDL	< MDL	66	1157	19371	3874	1492
	20.05.2020	< MDL	< MDL	73	1224	12227	2445	1371
	21.05.2020	< MDL	< MDL	52	1280	6953	1391	1479
	22.05.2020	< MDL	< MDL	76	1153	6873	1375	1296
	23.05.2020	< MDL	< MDL	125	1209	12853	2571	1348
	24.05.2020	< MDL	< MDL	178	1223	10699	2140	1597
	25.05.2020	< MDL	< MDL	87	1043	11554	2311	1584
	27.05.2020	< MDL	< MDL	67	1170	7664	1533	1578
	31.05.2020	< MDL	< MDL	111	1692	15379	3076	1573
	03.06.2020	< MDL	< MDL	80	1473	16906	3381	1532

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)							Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)
		AMP	MAMP	MDMA	COC from BE	THC from THC- COOH CF:182	THC from THC-COOH CF:36.4	NIC from OH- COT and COT	
	07.06.2020	< MDL	< MDL	138	1259	20250	4050	1580	20.4
	11.06.2020	< MDL	< MDL	90	1398	15800	3160	1556	19.5
	14.06.2020	< MDL	< MDL	160	1515	16459	3292	1439	10.0
	17.06.2020	< MDL	< MDL	78	1489	22073	4415	1479	14.9
	21.06.2020	< MDL	< MDL	104	1482	14135	2827	1437	28.5
	24.06.2020	< MDL	< MDL	244	1543	18953	3791	1421	16.2
	28.06.2020	< MDL	< MDL	125	1292	7910	1582	1530	22.5
	01.07.2020	< MDL	< MDL	95	1332	8175	1635	1850	29.2
	05.07.2020	< MDL	< MDL	162	1682	7228	1446	2025	31.6
	08.07.2020	< MDL	< MDL	79	1795	1194	239	1920	21.6
	15.07.2020	< MDL	< MDL	72	1123	6283	1257	1542	24.5
	19.07.2020	< MDL	< MDL	111	1753	20102	4021	1461	36.2
	22.07.2020	< MDL	< MDL	71	976	1188	2379	1754	12.4
	Average 2020 ± SD	<MDL	<MDL	105 ± 45	1381 ± 282	13546 ± 5846	2709 ± 1169	1501 ± 204	19.8 ± 7.0
Vila do Conde	22.04.2020	< MDL	< MDL	17	571	3499	700	1271	15.6
	26.04.2020	< MDL	< MDL	116	788	3603	721	1210	17.6
	29.04.2020	< MDL	< MDL	22	497	2893	579	781	11.4
	03.05.2020	< MDL	< MDL	120	673	2911	582	1353	25.5
	06.05.2020	< MDL	< MDL	92	549	3542	708	1317	33.9
	10.05.2020	< MDL	< MDL	77	651	2521	504	954	25.2
	13.05.2020	< MDL	< MDL	24	667	2919	584	1210	21.8
	17.05.2020	< MDL	< MDL	104	622	2249	450	1078	24.8
	20.05.2020	< MDL	< MDL	30	375	2414	483	862	12.6
	24.05.2020	< MDL	< MDL	87	864	2302	460	1337	32.9
	31.05.2020	< MDL	< MDL	265	2267	1220	244	3079	49.3
	03.06.2020	< MDL	< MDL	55	1305	5038	1008	2267	28.7
	07.06.2020	< MDL	< MDL	140	1179	875	175	1765	30.2
	14.06.2020	< MDL	< MDL	44	431	4644	929	1138	14.5
	17.06.2020	< MDL	< MDL	35	784	941	188	1651	21.8
	21.06.2020	< MDL	< MDL	31	246	4366	873	636	12.2
	23.06.2020	< MDL	< MDL	42	656	4685	937	1428	18.1
	28.06.2020	< MDL	< MDL	44	829	3863	773	1516	23.5
	01.07.2020	< MDL	< MDL	37	699	4647	929	1464	19.4
	05.07.2020	< MDL	< MDL	60	1124	927	185	1725	27.3
	08.07.2020	< MDL	< MDL	36	624	9056	1811	1449	16.3

City	Date (DD.MM.YYYY)	Human consumption ($\text{mg day}^{-1} 1000 \text{inhabitant}^{-1}$)							Human consumption ($\text{L day}^{-1} 1000 \text{inhabitant}^{-1}$)
		AMP	MAMP	MDMA	COC from BE	THC from THC- COOH CF:182	THC from THC-COOH CF:36.4	NIC from OH- COT and COT	
	09.07.2020	< MDL	< MDL	20	780	6819	1364	1492	26.0
	10.07.2020	< MDL	< MDL	17	338	7209	1442	674	6.8
	11.07.2020	< MDL	< MDL	38	959	7284	1457	1814	17.1
	12.07.2020	< MDL	< MDL	123	1111	11725	2345	1297	14.5
Average 2020 ± SD		<MDL	<MDL	67 ± 56	783 ± 407	4086 ± 2644	817 ± 529	1391 ± 514	21.9 ± 9.1

Table S5. Enantiomeric fractions (EF_R) determined in the wastewater samples.

City	Date (DD.MM.YYYY)	EF_R	
		AMP	MDMA
Bilbao and its metropolitan area	16.04.2020	0.58	0.65
	18.05.2020	0.57	0.55
	11.06.2020	0.55	0.56
	09.07.2020	0.52	0.51
Castellón	19.04.2020	<MDL	0.60
	11.05.2020	<MDL	0.64
	15.06.2020	<MDL	0.69
	13.07.2020	<MDL	0.67
Santiago de Compostela	12.03.2020	0.46	0.48
	07.04.2020	<MQL	0.72
	13.04.2020	0.62	0.64
	14.04.2020	0.60	0.61
	19.04.2020	0.47	0.72
	11.07.2020	0.58	0.56
Vitoria-Gasteiz	28.04.2020	0.53	0.64
	14.05.2020	0.51	0.67
	29.06.2020	0.54	0.62
	10.07.2020	0.51	0.59
Porto	20.04.2020	0.57	0.57
	23.05.2020	0.59	0.58
	12.06.2020	0.65	0.54
	20.07.2020	0.76	0.60
Vila do Conde	22.04.2020	0.63	0.70
	06.05.2020	0.69	0.56
	03.06.2020	0.67	0.68
	12.07.2020	0.52	0.60

Table S6. Summary of the statistical significance of the time-period on the evolution of consumption in the different cities. Statistical comparison was first performed by a Kruskal-Wallis test and in case of statistical differences being found, subjected to a Bonferroni post-hoc analysis ($\alpha=0.05$).

		Castellón	Santiago de Compostela	Bilbao and its metropolitan area	Vitoria-Gasteiz	Porto	Vila do Conde
Amphetamine	Kruskal-Wallis p- value	-	-	0.78	0.37	-	-
	Bonferroni test*	-	-	-	-	-	-
MDMA	Kruskal-Wallis p- value	0.0026	0.20	0.37	0.54	0.0021	0.48
	Bonferroni test *	2019-PI	-	-	-	2017-PIII	-
Cocaine	Kruskal-Wallis p- value	<0.0001	0.0037	0.58	0.95	<0.0001	0.71
	Bonferroni test*	2017-LD; 2019-LD; 2019-PII; 2019-NN	-	-	-	2017-PI; 2017-PII; 2017- PIII; 2017-NN; 2018-PIII	-
THC	Kruskal-Wallis p- value	0.0014	<0.0001	0.0017	0.040	0.0039	0.063
	Bonferroni test*	2019-PII; LD-PII	2019-LD; 2019-PI; 2019- PII	2018-2019; 2018-NN	LD-NN	-	-
Nicotine	Kruskal-Wallis p- value	0.0051	0.0030	0.0088	0.021	0.012	0.45
	Bonferroni test*	2018-LD; 2018-NN	PLD-PI; PLD-PII	2018-PI	LD-NN	PI-NN	-
Ethanol	Kruskal-Wallis p- value	0.0003	0.0002	0.59	0.96	0.18	0.18
	Bonferroni test*	2018-LD; 2018-NN	2018-PI; 2018-NN	-	-	-	-

* The table compiles those pairs of samples where statistical differences were found in the Bonferroni test. Abbreviations: PLD: pre-lockdown; LD: lockdown; PI: Phase I of lockdown relaxation; PII: Phase II of lockdown relaxation; PIII: Phase III of lockdown relaxation; NN: New Normal.